

Mount Laguna and Pine Valley
Community Defence and
Healthy Forest Restoration Project
Implementation Unit Guide



Cleveland National Forest

Implementation Unit Guide: Table of Contents

Introduction	1
Index Map	4
Mt. Laguna	
Unit 01 Map	5
Design Feature	6
Unit 02 Map	9
Design Feature	10
Unit 03 Map	12
Design Feature	13
Unit 04 Map	14
Design Feature	15
Unit 05 Map	17
Design Feature	18
Unit 06 Map	20
Design Feature	21
Unit 07 Map	23
Design Feature	24
Unit 08 Map	27
Design Feature	28
Unit 09 Map	29
Design Feature	30
Unit 10 Map	32
Design Feature	33
Unit 11 Map	35
Design Feature	36
Unit 12 Map	39
Design Feature	40
Unit 13 Map	43
Design Feature	44
Unit 14 Map	46
Design Feature	47
Unit 15 Map	49
Design Feature	50
Unit 16 Map	52
Design Feature	53
Unit 17 Map	55
Design Feature	56
Unit 18 Map	58
Design Feature	59
Unit 19 Map	61
Design Feature	62
Unit 21 Map	64
Design Feature	65

Unit 22 Map	67
Design Feature	68
Unit 23 Map	70
Design Feature	71
Unit 24 Map	73
Design Feature	74
Unit 25 Map	76
Design Feature	77
Unit 26 Map	79
Design Feature	80
Unit 27 Map	82
Design Feature	83
Unit 28 Map	84
Design Feature	85
Unit 29 Map	87
Design Feature	88
Unit 30 Map	90
Design Feature	91
Unit 31 Map	92
Design Feature	93
Unit 32 Map	95
Design Feature	96
Unit 33 Map	98
Design Feature	99
Unit 34 Map	101
Design Feature	102
Unit 35 Map	103
Design Feature	104
Unit 36 Map	107
Design Feature	108
Unit 37 Map	110
Design Feature	111
Unit 38 Map	114
Design Feature	115
Unit 39 Map	117
Design Feature	118
Unit 40 Map	120
Design Feature	121
Unit 41 Map	123
Design Feature	124
Unit 42 Map	126
Design Feature	127
Unit 43 Map	129
Design Feature	130
Unit 44 Map	133
Design Feature	134

Unit 45 Map	137
Design Feature	138
Unit 46 Map	140
Design Feature	141
Unit 47 Map	143
Design Feature	144
Unit 55 Map	146
Design Feature	147
Unit 56 Map	149
Design Feature	150
Unit 57 Map	151
Design Feature	152
Unit 58 Map	153
Design Feature	154
Unit 59 Map	156
Design Feature	157
Unit 60 Map	159
Design Feature	160
Unit 61 Map	162
Design Feature	163
Unit 62 Map	164
Design Feature	165
Unit 64 Map	166
Design Feature	167
Unit 65 Map	170
Design Feature	171
Pine Valley	
Unit 48 Map	174
Design Feature	175
Design Feature	177
Unit 49 Map	178
Design Feature	179
Unit 50 Map	181
Design Feature	182
Unit 51 Map	183
Design Feature	184
Unit 52 Map	186
Design Feature	187
Unit 53 Map	189
Design Feature	190

Mount Laguna/Pine Valley Community Defense and Healthy Forest Restoration Project

Treatment Unit Cards

Individual unit cards were developed to be an implementation guide for this project based on alternative 2 in the Project EA. There is also general direction not specific to a unit that is included in this introduction.

GENERAL IMPLEMENTATION DIRECTION

The project will be implemented over a 10-year period.

ADAPTIVE MANAGEMENT STRATEGY

The following Adaptive Management Strategy (AMS) pertains to the entire project area.

- AMS was developed to monitor treatments effectiveness and effects and modify the treatment prescriptions based on findings. Any changes need to be documented in the project file, including why the change was made and how the change will modify the effects of the action (should be less effects than what was originally proposed).
- Vanishing Wild Buckwheat (sensitive plant species)
 - A test plot will be established to assess the effects of broadcast burning on the occurrence in unit 52. If the results indicate a reduction in vanishing buckwheat individuals and an increase in invasive plant cover by greater than five percent absolute cover, then no broadcast burning will be permitted and known occurrences throughout the project area will be flagged and avoided with a 50-foot buffer. If this test plot does not occur, all occurrences must be flagged and avoided with a 50-foot buffer, except for the occurrence in unit 52 within the WUI defense zone. This WUI defense zone occurrence can be masticated on the condition a minimum of 40'x40' patches of shrubs are left as untreated separated by no greater than 25' to provide refugia for individuals.

The following Adaptive Management Strategy (AMS) pertains to all of Mt Laguna Area

- In areas where there is potential for heavy regrowth of vigorously sprouting and seeding shrub (i.e., whitethorn, Palmer's ceanothus), small test plots would be burned. If high numbers of these shrubs seed in and/or sprout in the test plots, then prescribed burning in the treatment unit(s) would not proceed.
- Mt Laguna Aster (sensitive plant species)
 - Monitoring will occur after mechanized treatments occur in Mt Laguna aster (units 22, 25, 31, 32, 35, 37, 55). If the aster population is maintained or increases from pre-treatment numbers, mechanized equipment can continue. If individuals decline, other populations/occurrences will need to be flagged and avoided.

- If multiple entries/multiple treatments are planned for a unit (units 17, 22, 25, 26, 27, 31, 32, 35, 37, 55) monitoring would follow treatments in a given year to determine population response prior to initiating successive treatments. If populations decline after repeated entries, other populations/occurrences will be flagged and avoided from other treatments.

ROAD MAINTENANCE

The Forest system native-surfaced roads (i.e., unpaved) may require maintenance during the 10-year implementation window. Maintenance activities could include removing roadside brush and repairing waterbars, grading, cleaning ditches and culverts and removing small trees or brush and limbs that interfere with traffic and/or sight distance around curves.

PROTECTION MEASURES

All off-road equipment used will be washed before moving into the project area to ensure that the equipment is free of soil, seeds, vegetative material, or other debris that could contain or hold seeds of invasive plant species. "Off-road equipment" includes equipment, such as masticators and chippers; it does not include chip vans, service vehicles, water trucks, pickup trucks and similar vehicles not intended for off-road use. Equipment would be considered clean after six minutes of washing.¹ (WEED-1).

Invasive plant infestations of tocalote (*Centaurea melitensis*), prickly Russian thistle (*Salsola trogus*), bull thistle (*Cirsium vulgare*), rock rose (*Cistus incanus* ssp. *creticus*), and Indian teasel (*Dipsacus sativus*) identified within treatment units before or during project implementation will be manually or mechanically treated or "flagged and avoided" prior to project activities occurring in the area (WEED-2)

A combination of natural barriers (e.g., rocks, logs, vegetation), screening and fencing will be used, as required, to prevent/discourage illegal off road vehicle activity and unauthorized recreation (i.e., user created trail establishment) from occurring during and after the project treatment. Coordination with adjacent landowners, public education and signing would be used as appropriate. (WEED-3)

Staging areas for equipment, materials, or crews should be located in areas that have been previously disturbed or are degraded habitat. If treatment activities allow, wood chips may be spread in staging areas after use to inhibit growth of nonnative annual grasses (WEED-5).

Develop a communication plan that involves on and off-site special use holders and the public, which at a minimum, includes ensuring a mutual understanding of the proposed project and the desired conditions upon project completion (USES-1).

Prescribed burning would be coordinated to ensure project implementation does not substantially interfere with authorized or cooperator activities. Provide timely information through local communication sources about prescribed burning activities, the potential for smoke impacting residents and visitors and actions people can take to protect themselves from smoke. Post

¹ As per 2008 USDA Forest Service publication that found 95 percent of debris was removed at 6 minutes, where as 66 percent was removed in 3 minutes.

prescribed burning signs at appropriate locations along Forest and County roads leading to campgrounds, communities and general forest areas when burning is in progress. Install low cost interpretive displays to explain the purpose, need and benefits of the project (USES-2).

MONITORING

FUELS TREATMENTS

All fuel reduction treatment activities throughout the project area will be monitored before and after implementation and documented within the unit folders on treatment effectiveness. All monitoring will include pre and post-photos, pre and post-ocular estimation of fuel loading, and if resource objectives have been met with regard to the overall change in surface fuel modification.

INVASIVE PLANTS

During the lifespan of the project, in years when budget and employee time allows, photo plots established in 2010 will be revisited to monitor nonnative annual grass population status (WEED-6)

FPT's and other staff will monitor the project area for OHV trespass and if/when problem areas arise, remedial and preventative actions will be taken as appropriate.

SENSITIVE PLANTS

To determine the status of vanishing wild buckwheat and Mount Laguna aster after proposed treatments, population-level monitoring is recommended as budgets and time allow.

- Select one to two populations within treatment areas and survey in appropriate phonological timeframe to determine status.
- Revisit selected populations for two to three years following initial treatment to determine short term and long term effects.

BIOLOGY

Test plots for prescribed broadcast burning in occurrences of horkelia (units 8/64, 24, 37) will be monitored before and after treatment to determine fire response in terms of rate and degree of regrowth of this plant species.

CULTURAL/HERITAGE RESOURCES

All mastication conducted with tracked equipment would be monitored by a qualified archaeologist. A monitoring log and summary letter report will be completed following project implementation.

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

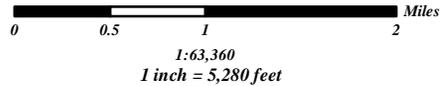
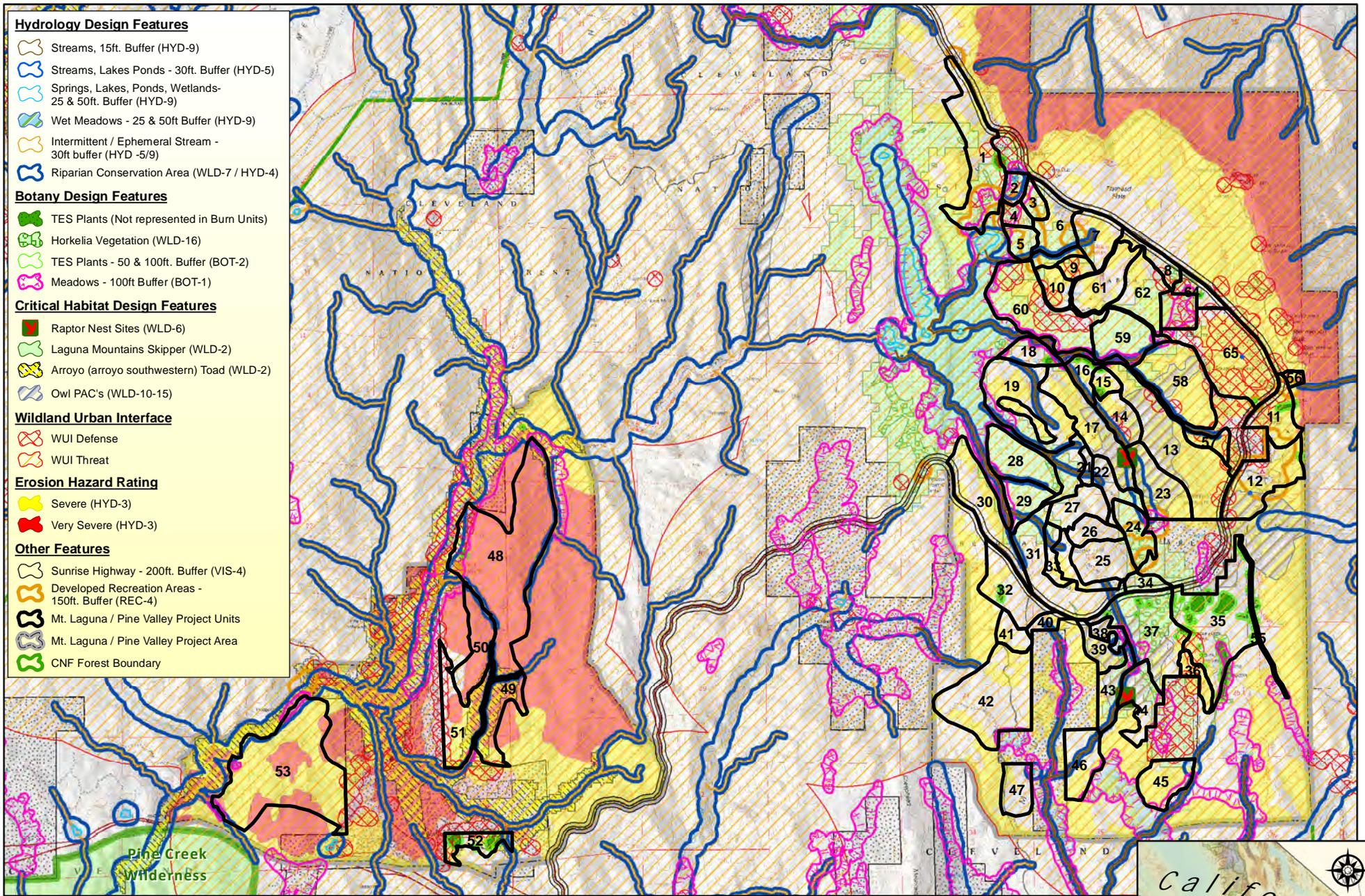
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

Other Features

- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

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Critical Habitat Design Features

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-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

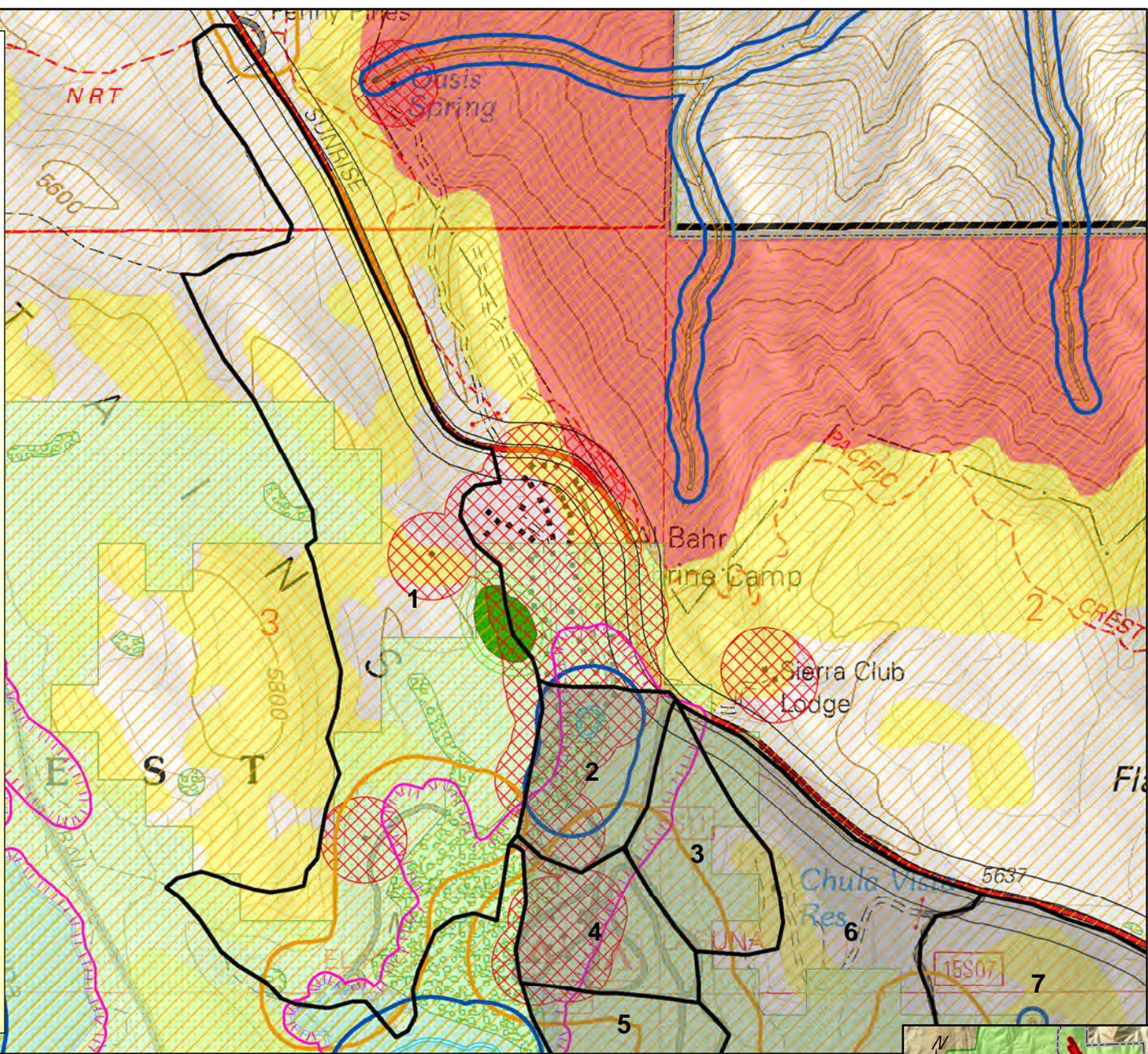
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

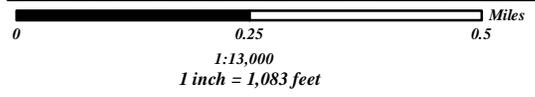
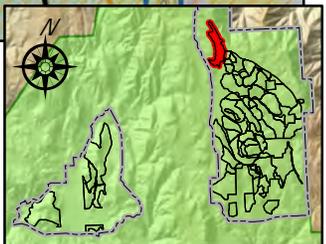
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
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**Mount Laguna and Pine Valley Community Defense &
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*Descanso Ranger District
Cleveland National Forest*

UNIT 1
178 ACRES



Mt. Laguna Unit 1 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 178 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 22 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 156 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Hall's monardelia, Orcutt's linanthus, velvety false lupine) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Recreation and Visual

- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

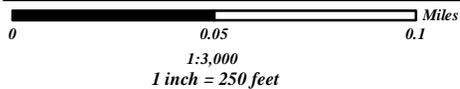
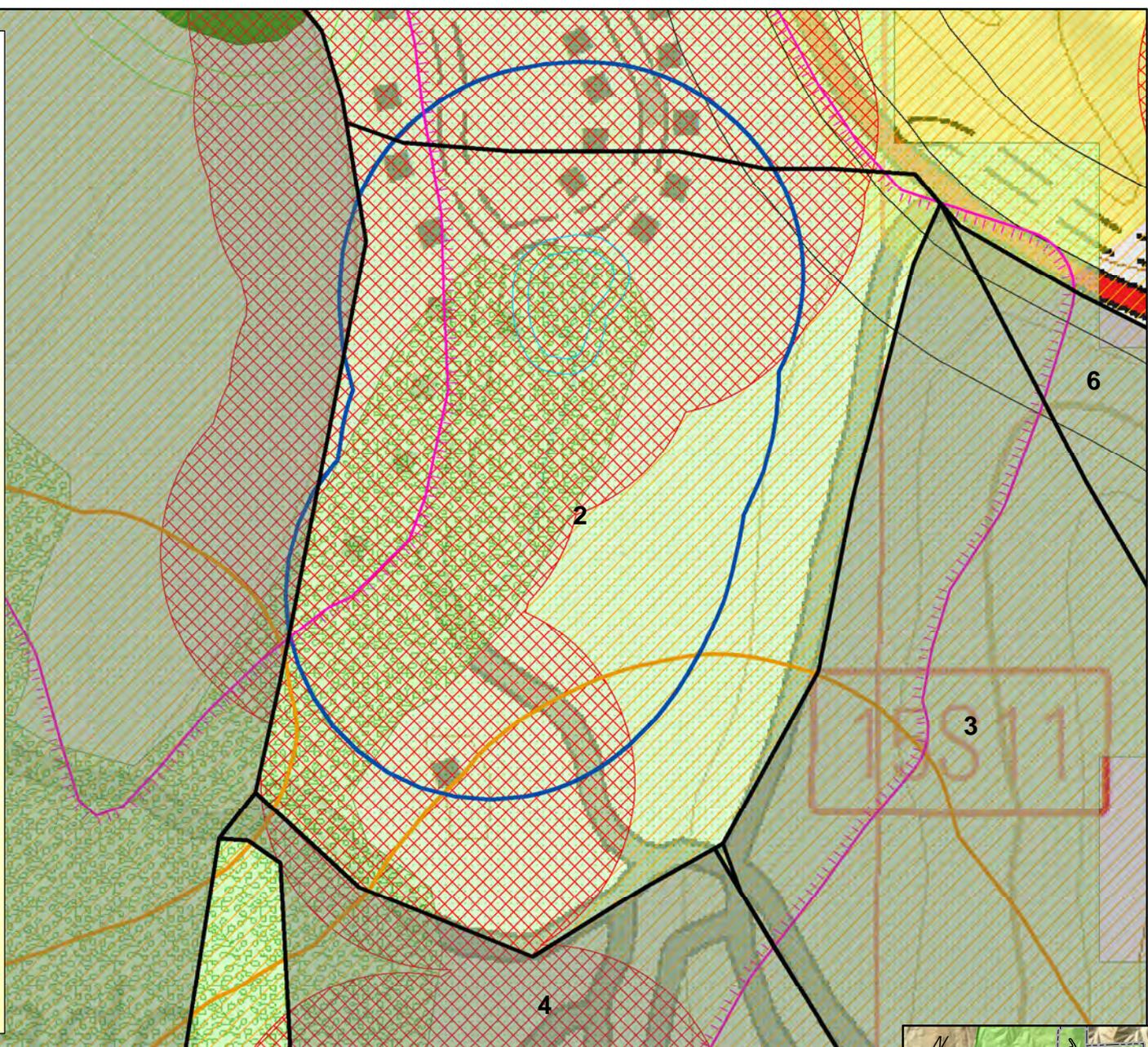
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

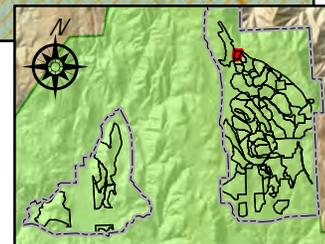
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
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UNIT 2
 23 ACRES



Mt. Laguna Unit 2 Broadcast Burn

Treatment Area Entire unit - 23 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Wildlife

- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

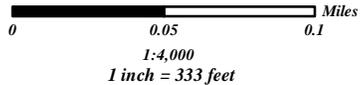
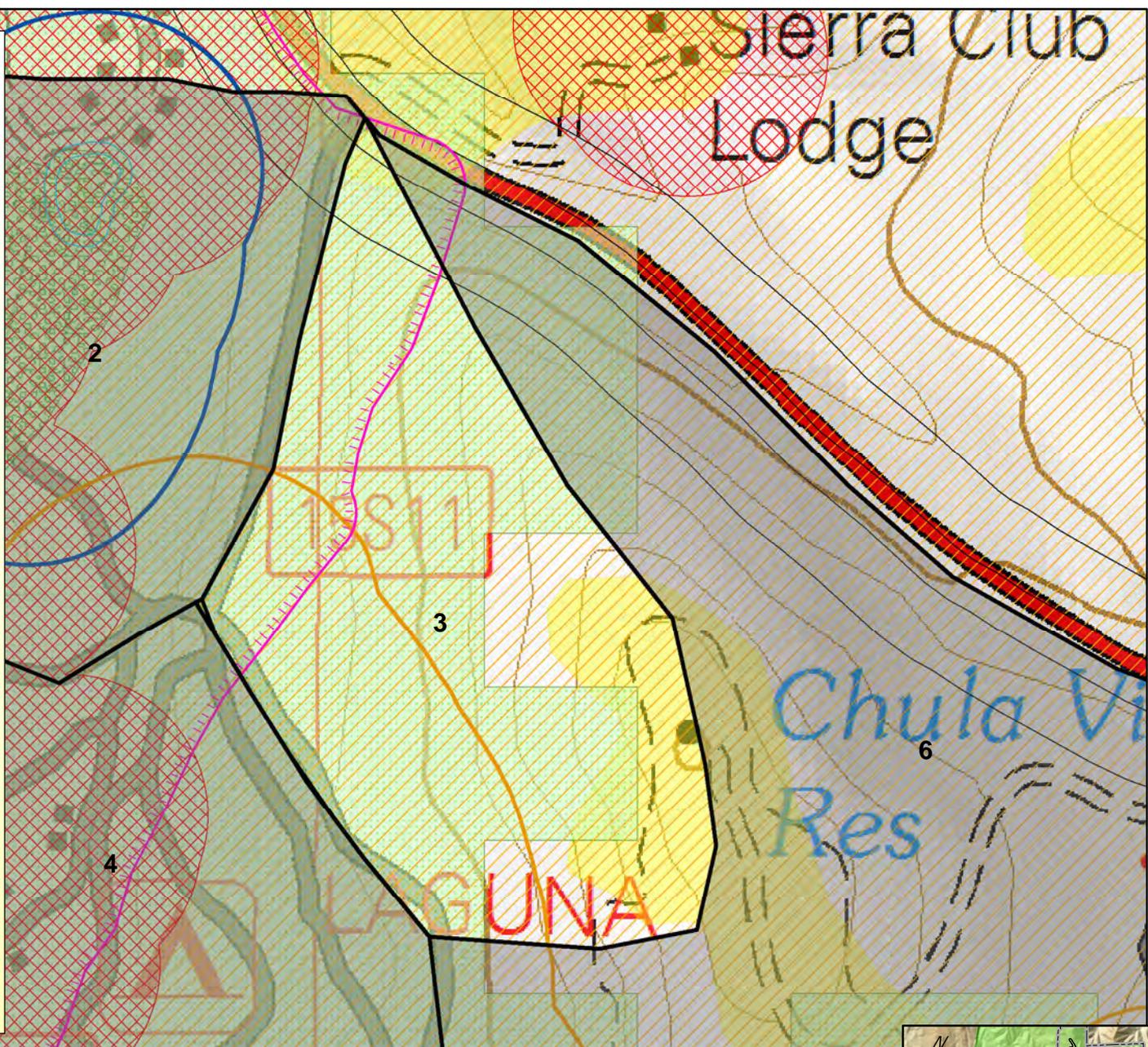
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

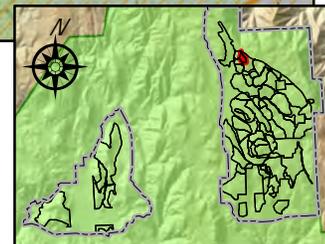
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest



UNIT 3
 24 ACRES



Mt. Laguna Unit 3 Broadcast Burn

Treatment Area Entire unit - 24 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

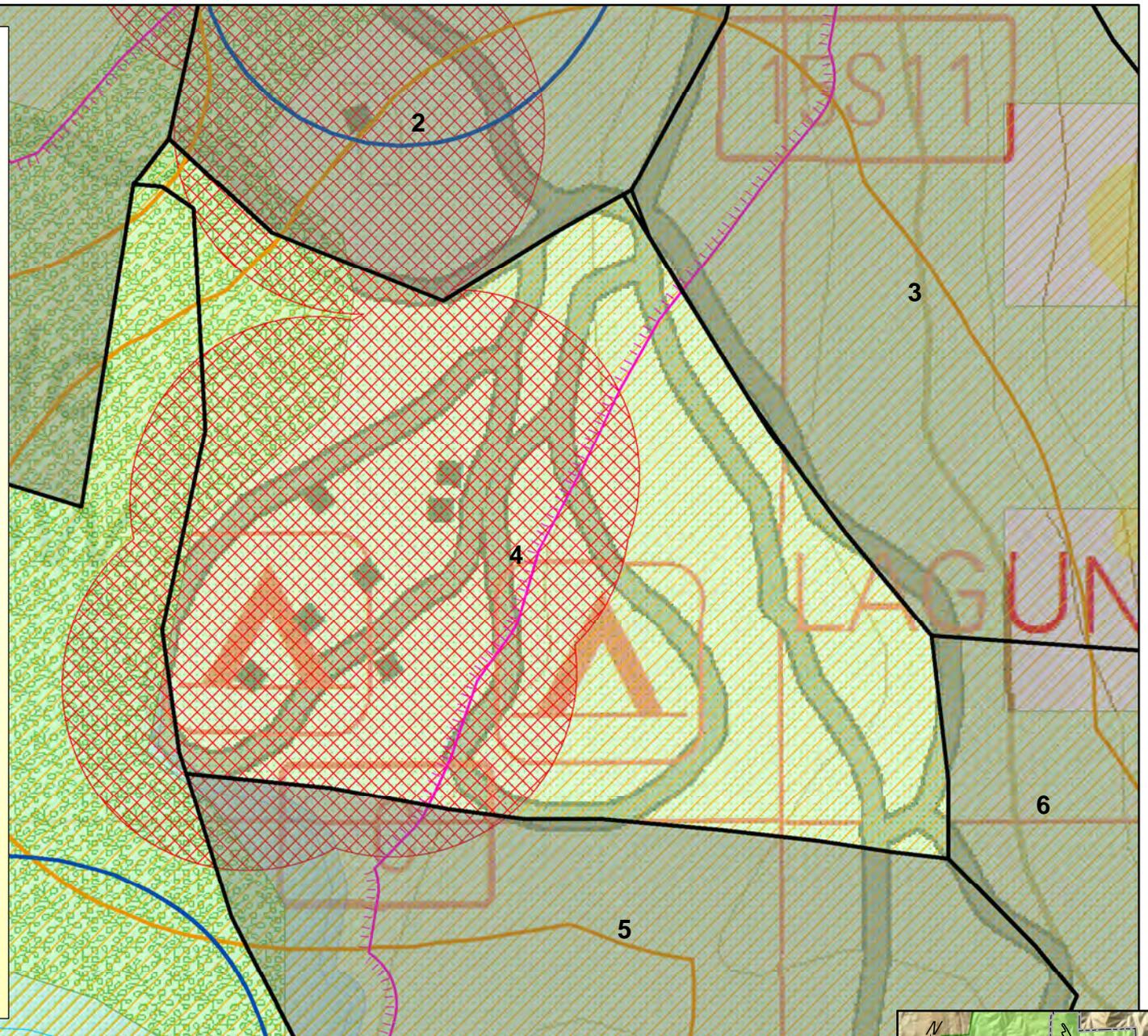
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

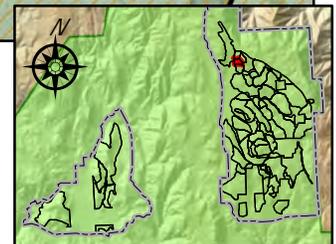
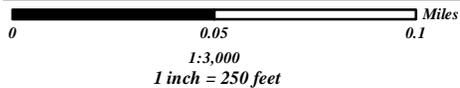
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
Healthy Forest Restoration Project
Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest



UNIT 4
22 ACRES



Mt. Laguna Unit 4 Hand Thin/Pile/Burn

Treatment Area Entire unit - 22 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Treatment Area Only in WUI defense - 13 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure. Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 9 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Parish's meadowfoam, velvety false lupine) from hand I treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

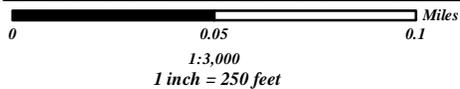
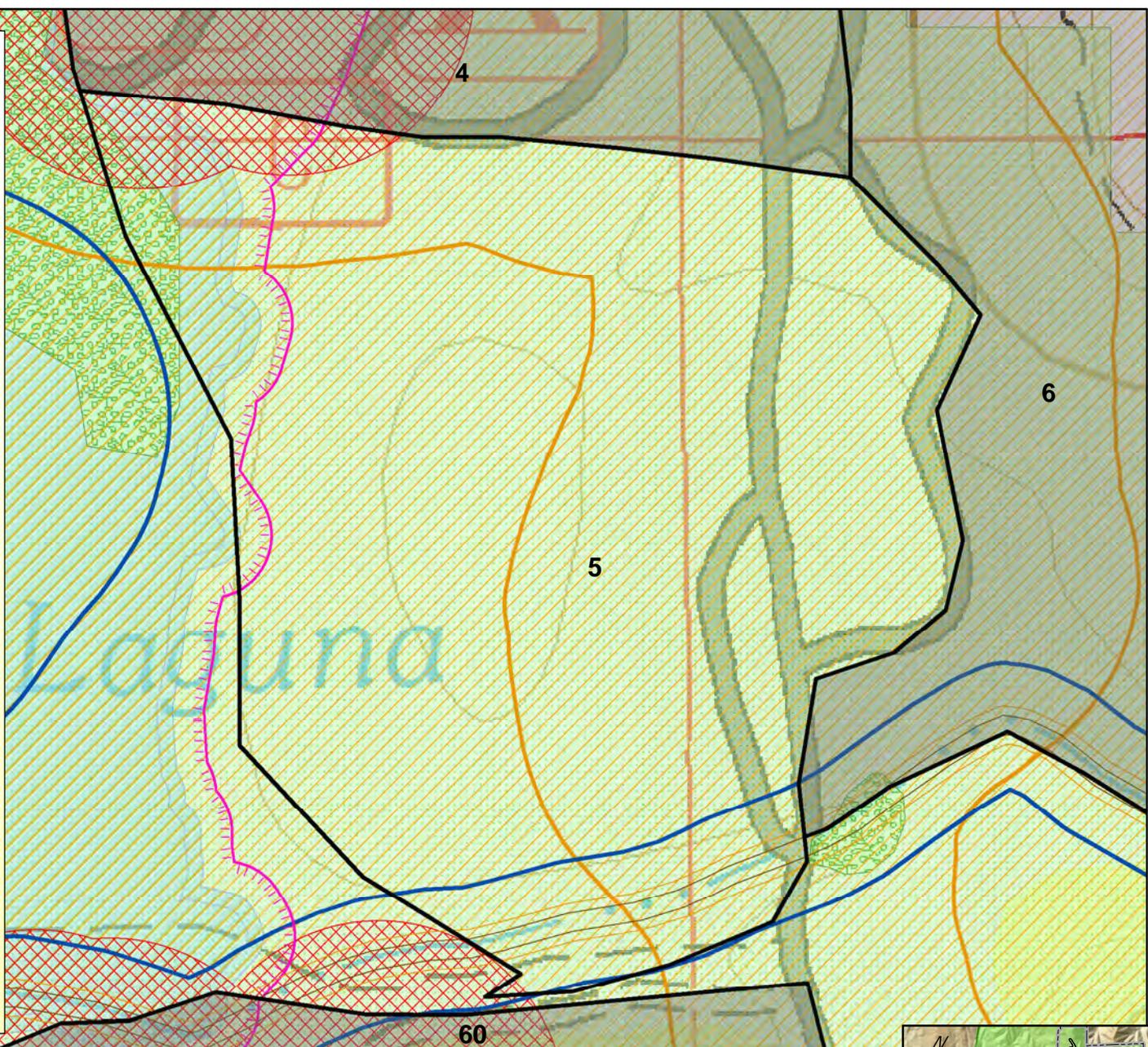
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

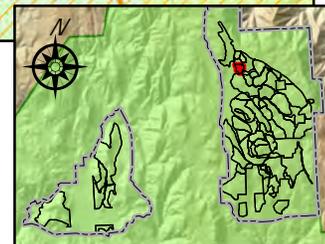
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest



UNIT 5
 32 ACRES



Mt. Laguna Unit 5 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 32 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 1 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure

Treatment Area Only in WUI threat - 31 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (velvety false lupine) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).

Hydrology and Soils

- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- No equipment within 15' of streams edge (HYD-9).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

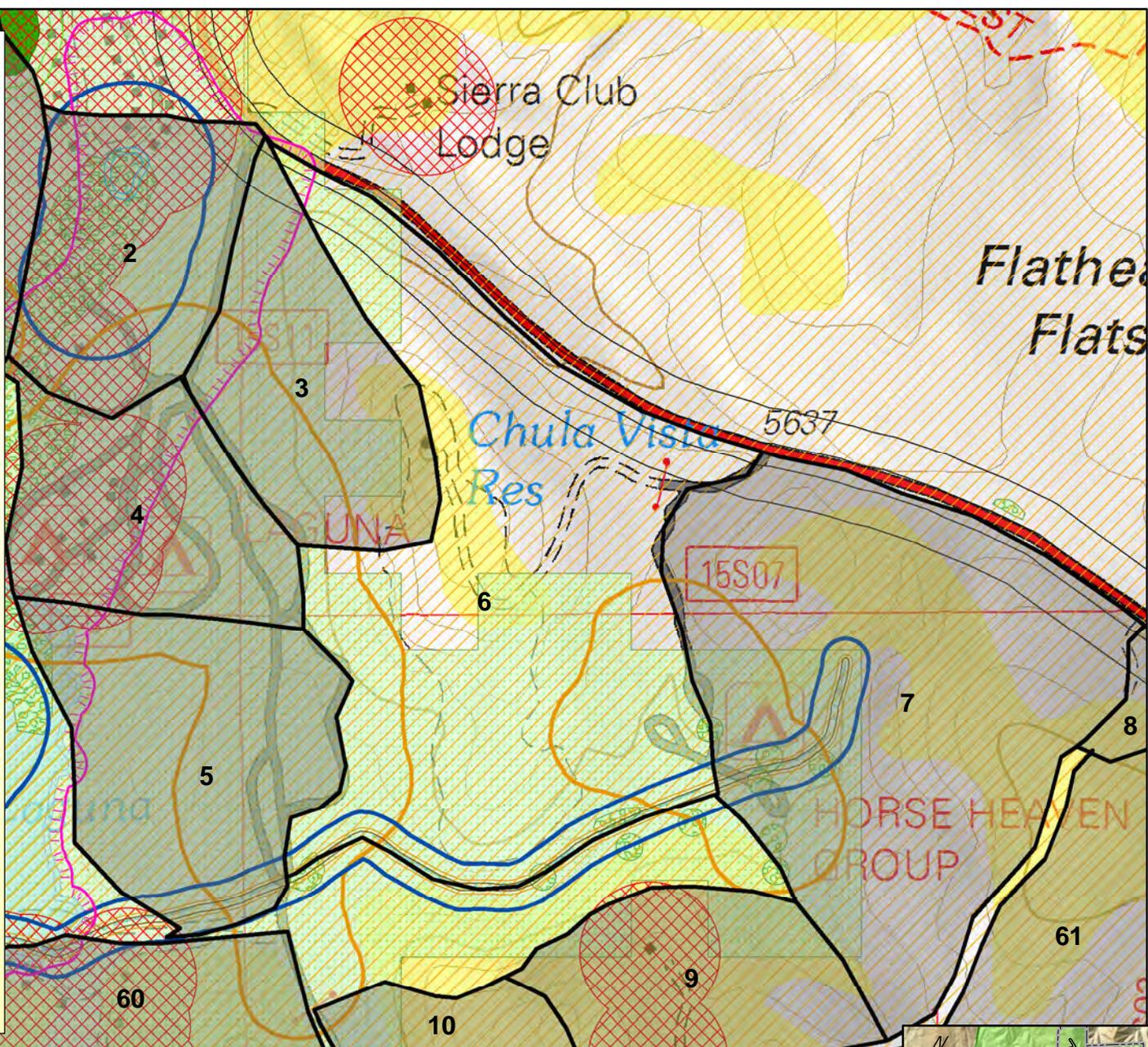
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

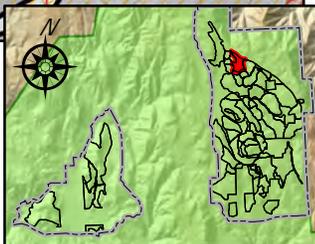
Other Features

- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 6
 76 ACRES



Mt. Laguna Unit 6 Broadcast Burn

Treatment Area Entire unit - 76 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).

Wildlife

- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- *Horkelia* (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

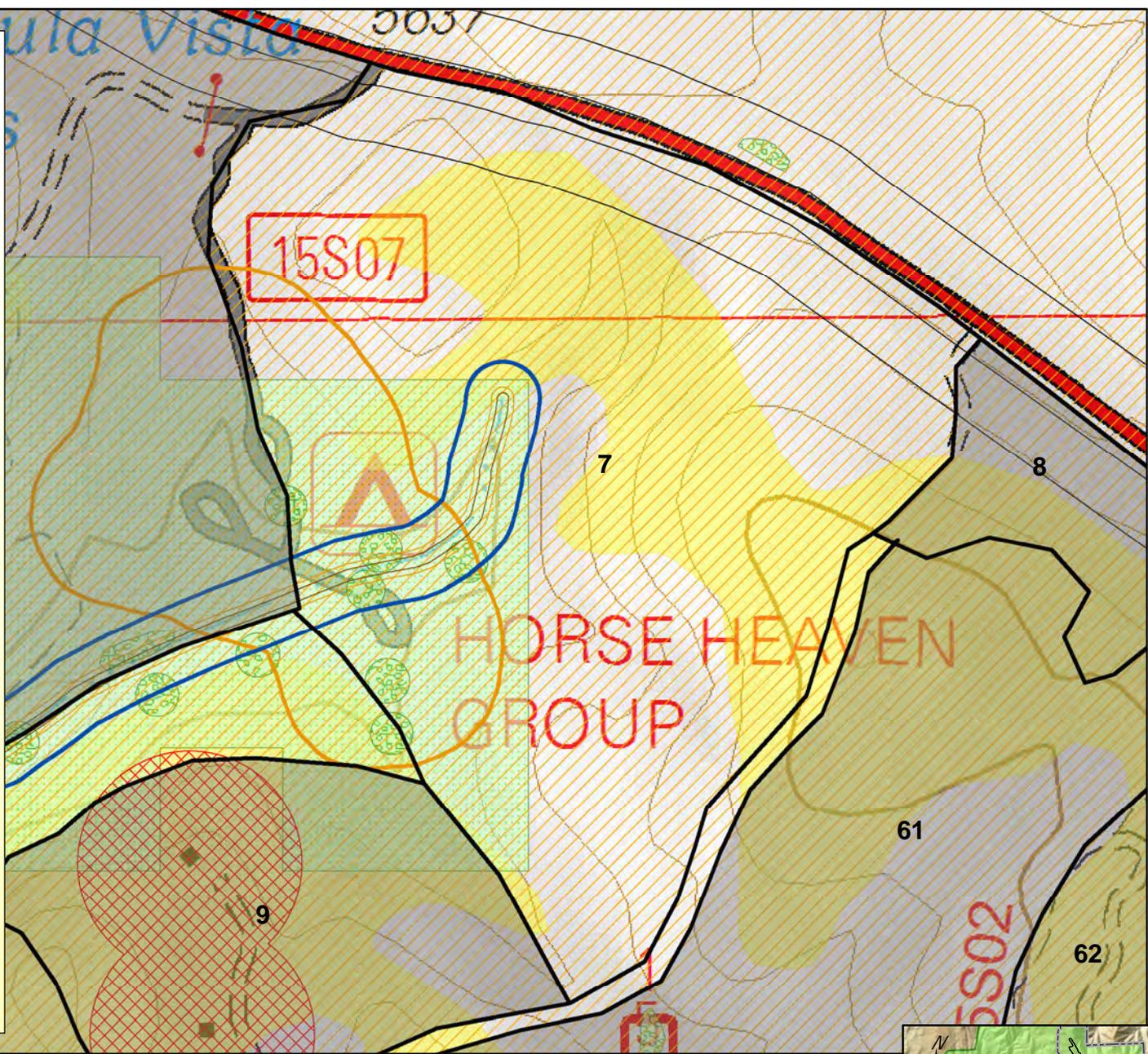
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

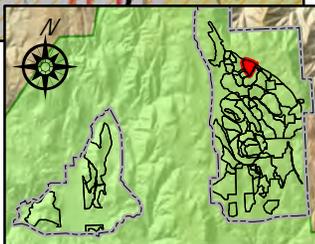
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 7
 69 ACRES



0 0.05 0.1 Miles
 1:5,000
 1 inch = 417 feet



Mt. Laguna Unit 7 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 69 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (velvety false lupine) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)

Wildlife

- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- *Horkelia* (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

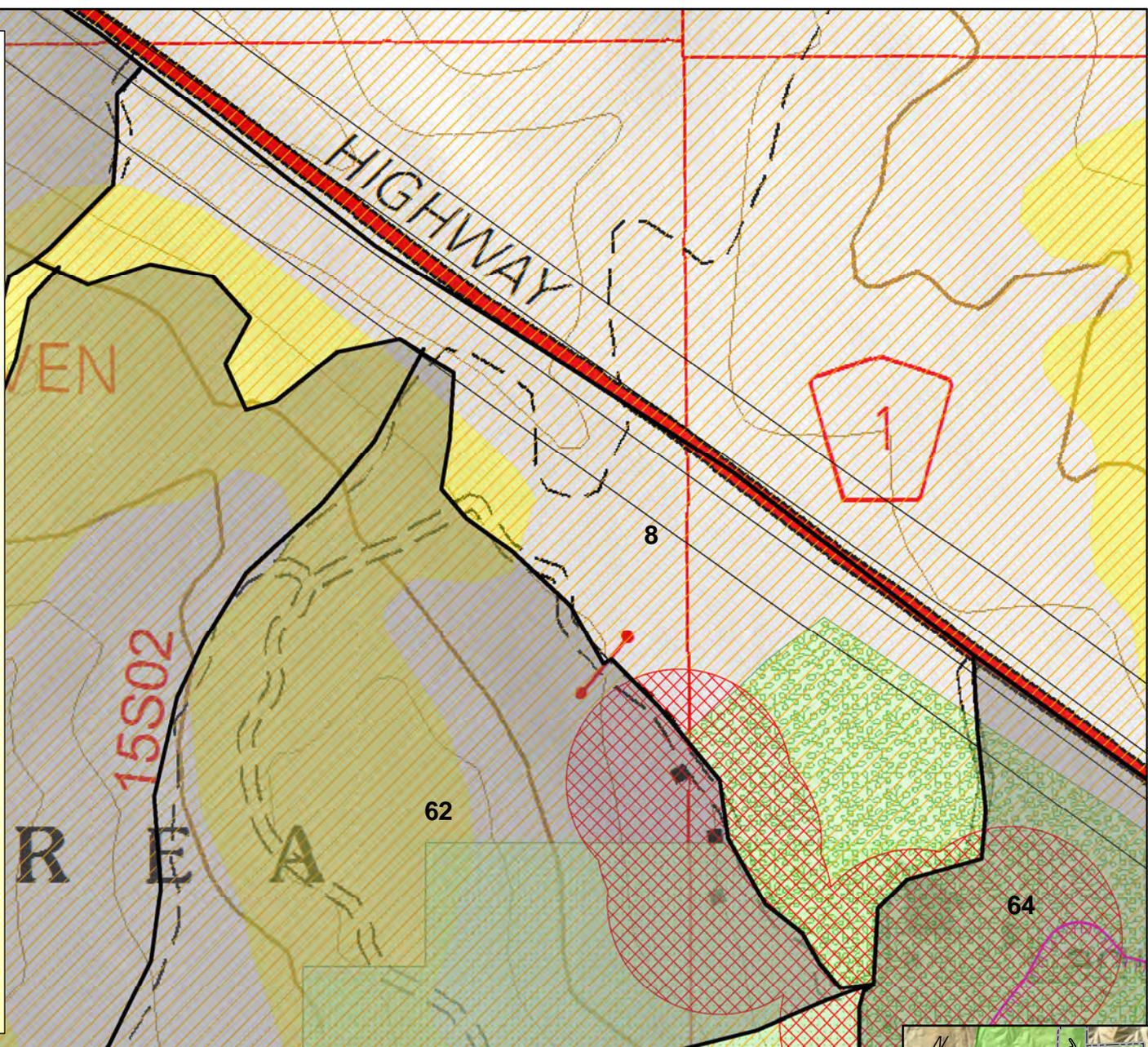
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

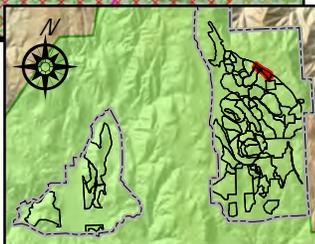
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:5,000
 1 inch = 417 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 8
 35 ACRES



Mt. Laguna Unit 8 Broadcast Burn

Treatment Area Entire unit - 35 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Select populations of horkelia, the host plant for the Laguna Mts skipper, will be treated in order to monitor the plants response to prescribed fire treatments. Monitoring will occur pre and post treatment to determine the rate and degree of regrowth (treating areas with high and low invasive grass cover).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

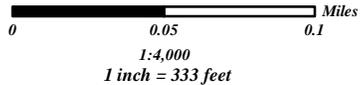
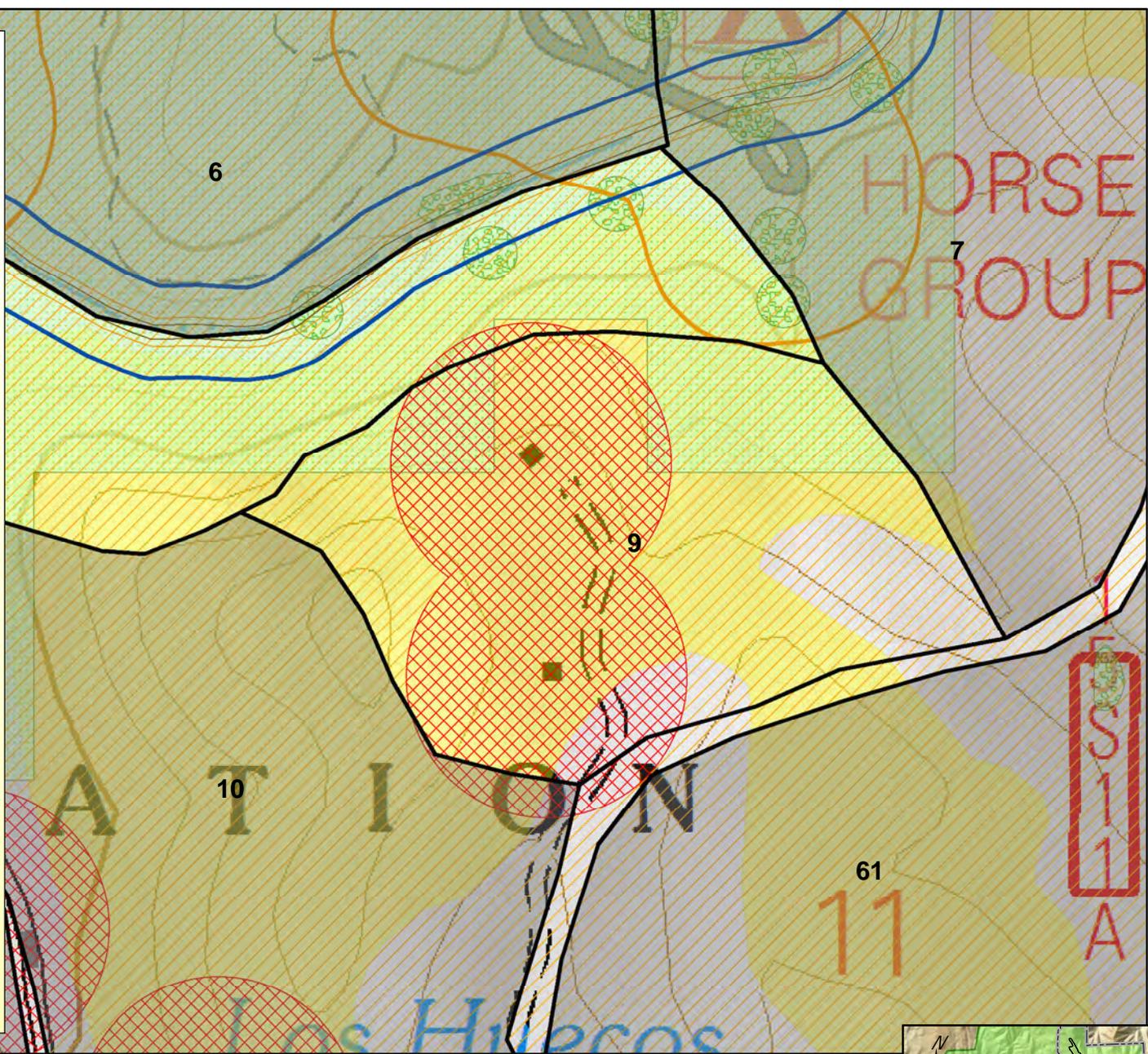
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

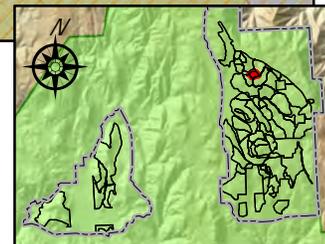
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest



UNIT 9
 23 ACRES



Mt. Laguna Unit 9 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 23 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only WUI defense - 11 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure. Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only WUI threat - 12 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).

Hydrology and Soils

- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

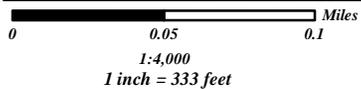
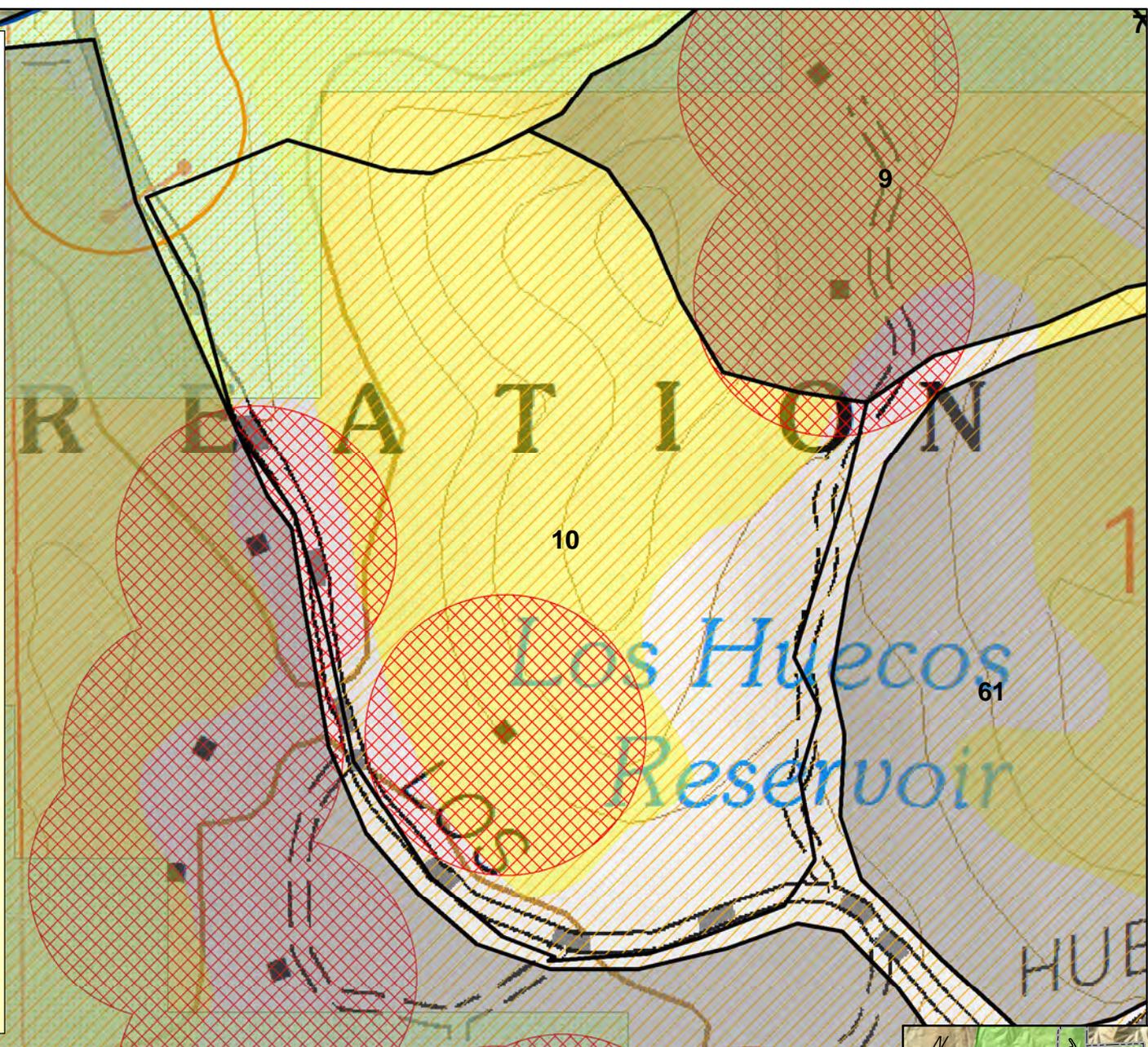
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

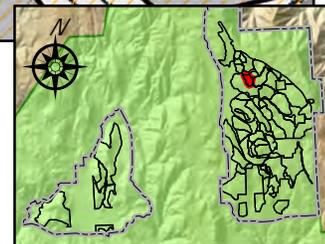
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 10
 39 ACRES



Mt. Laguna Unit 10 Masticate/Broadcast Burn

Treatment Area Entire unit - 39 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).

Wildlife

- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

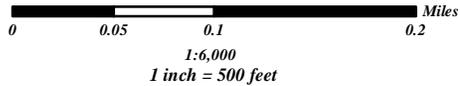
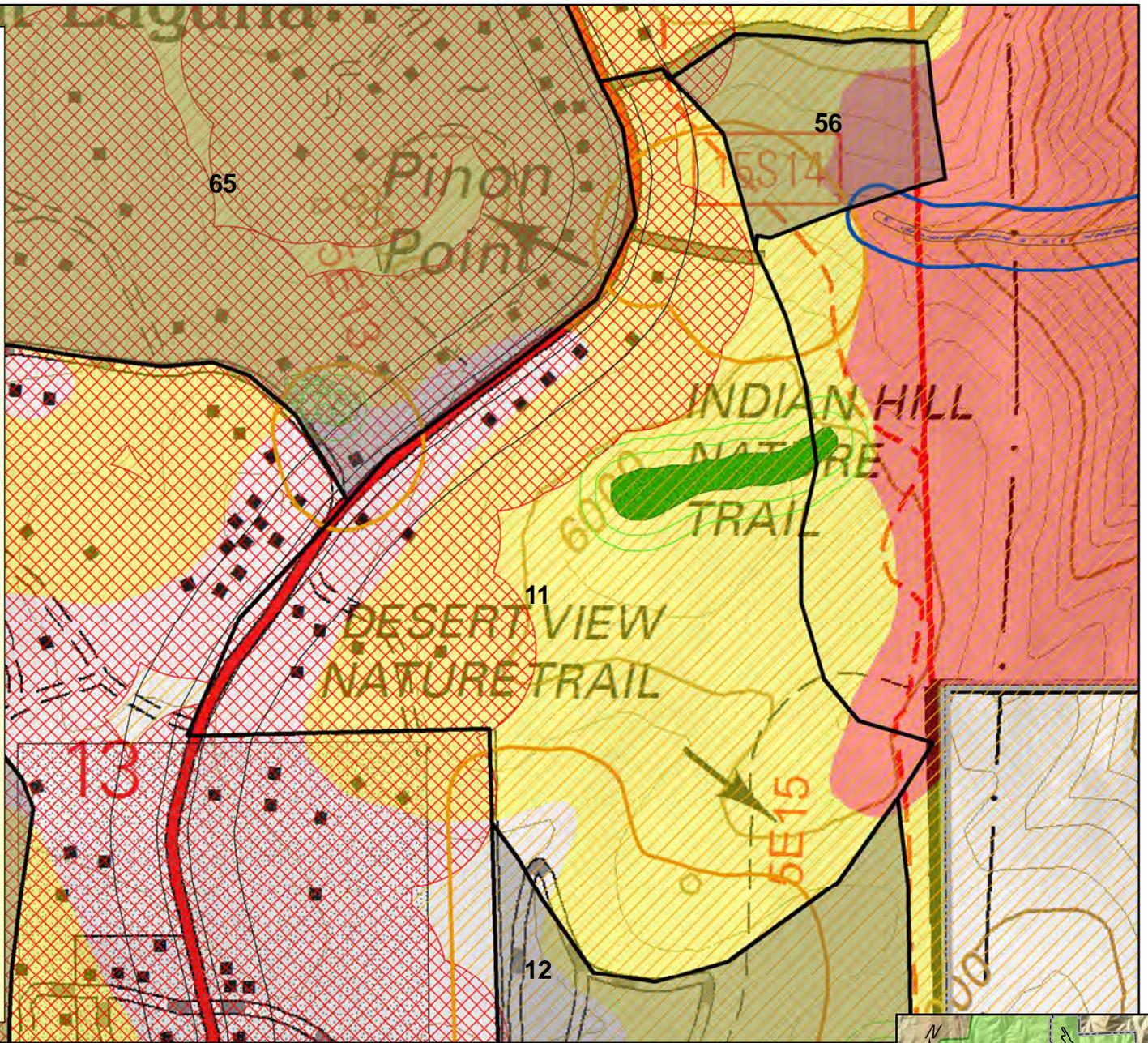
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

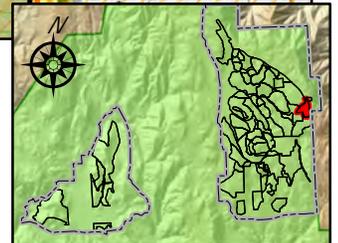
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 11
72 ACRES



Mt. Laguna Unit 11 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 72 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 29 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 43 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag and avoid sensitive plant species (Hall's monardella) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).

Wildlife

- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

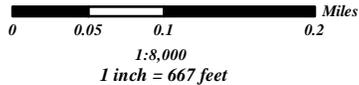
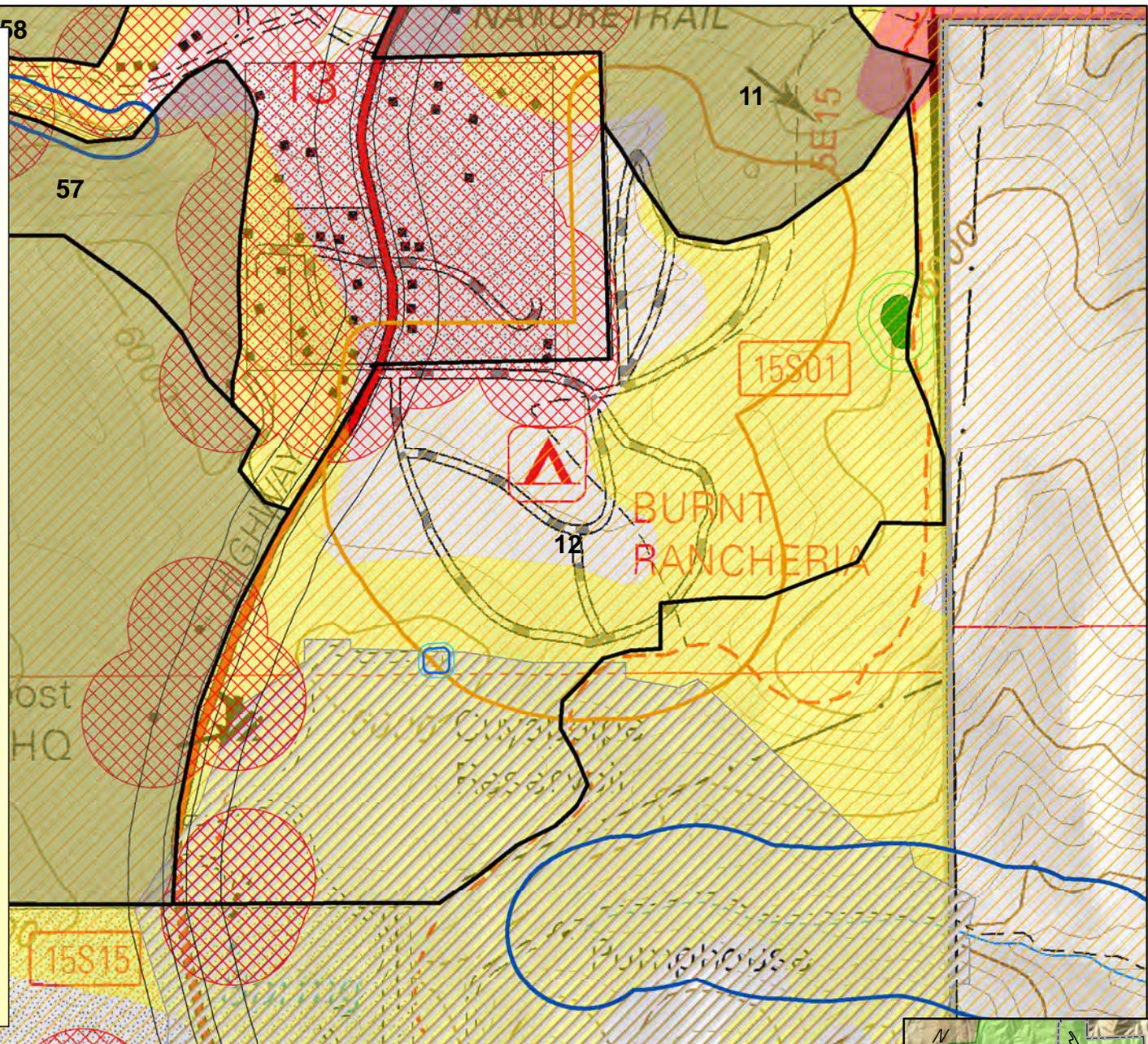
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

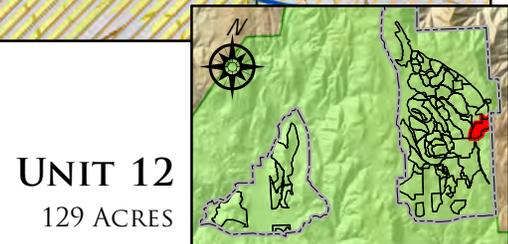
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
Implementation Unit Guide
Descanso Ranger District
Cleveland National Forest



UNIT 12
 129 ACRES



Mt. Laguna Unit 12 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 129 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 17 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 112 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).

Wildlife

- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, and In mechanical treatment areas, retain all woodrat nests in the WUI threat zone. Retain woodrat nests within WUI defense zones where they do not threaten the fuels integrity (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

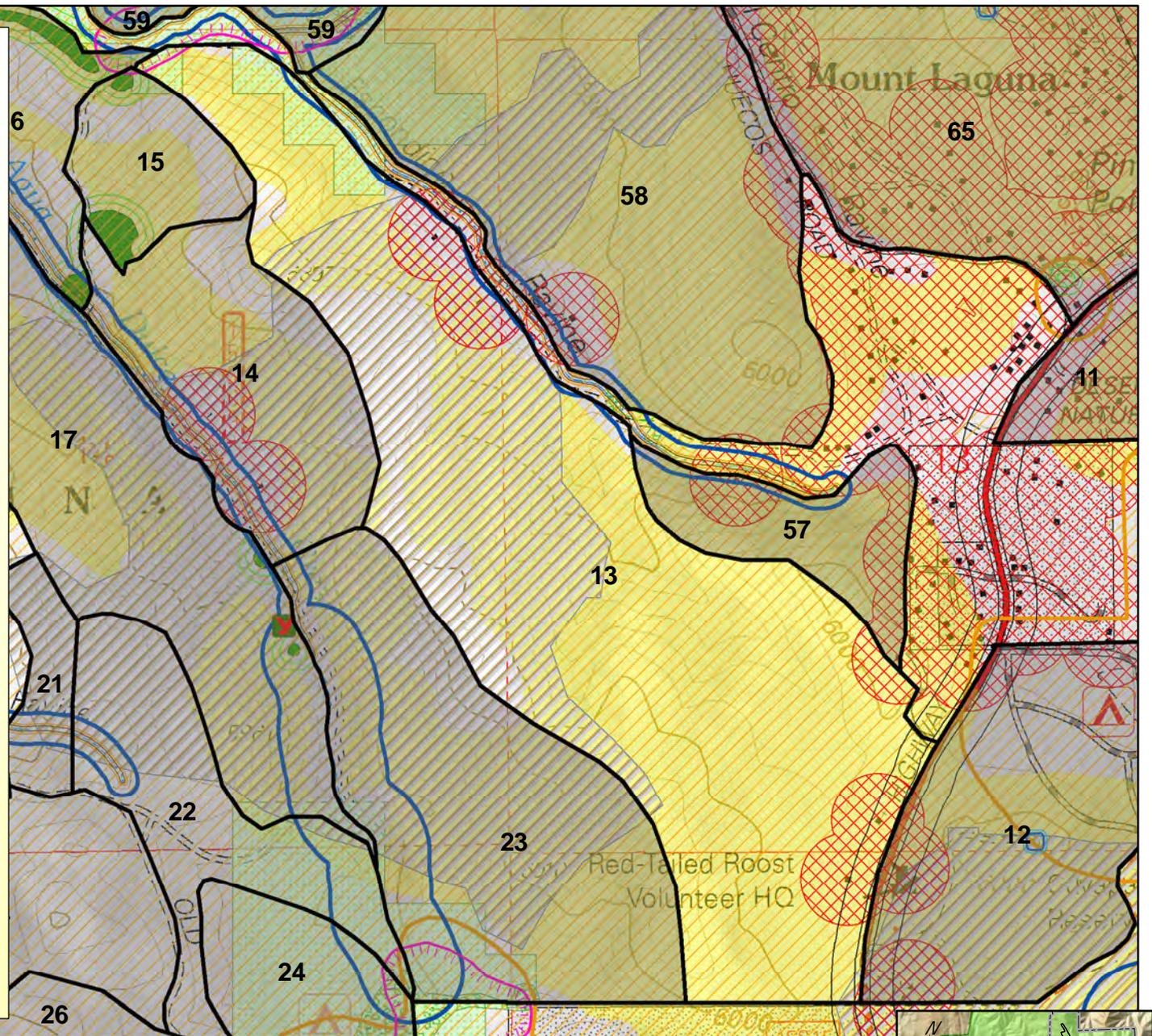
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

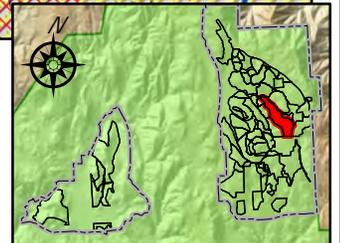
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.125 0.25 Miles
 1:12,000
 1 inch = 1,000 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 13
 230 ACRES



Mt. Laguna Unit 13 Hand Thin/Pile/Burn

Treatment Area Entire unit - 230 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Treatment Area Only in WUI defense - 21 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure. Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 209 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Laguna Mts Jewelflower) from hand treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).

Hydrology and Soils

- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to life/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- *Horkelia* (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

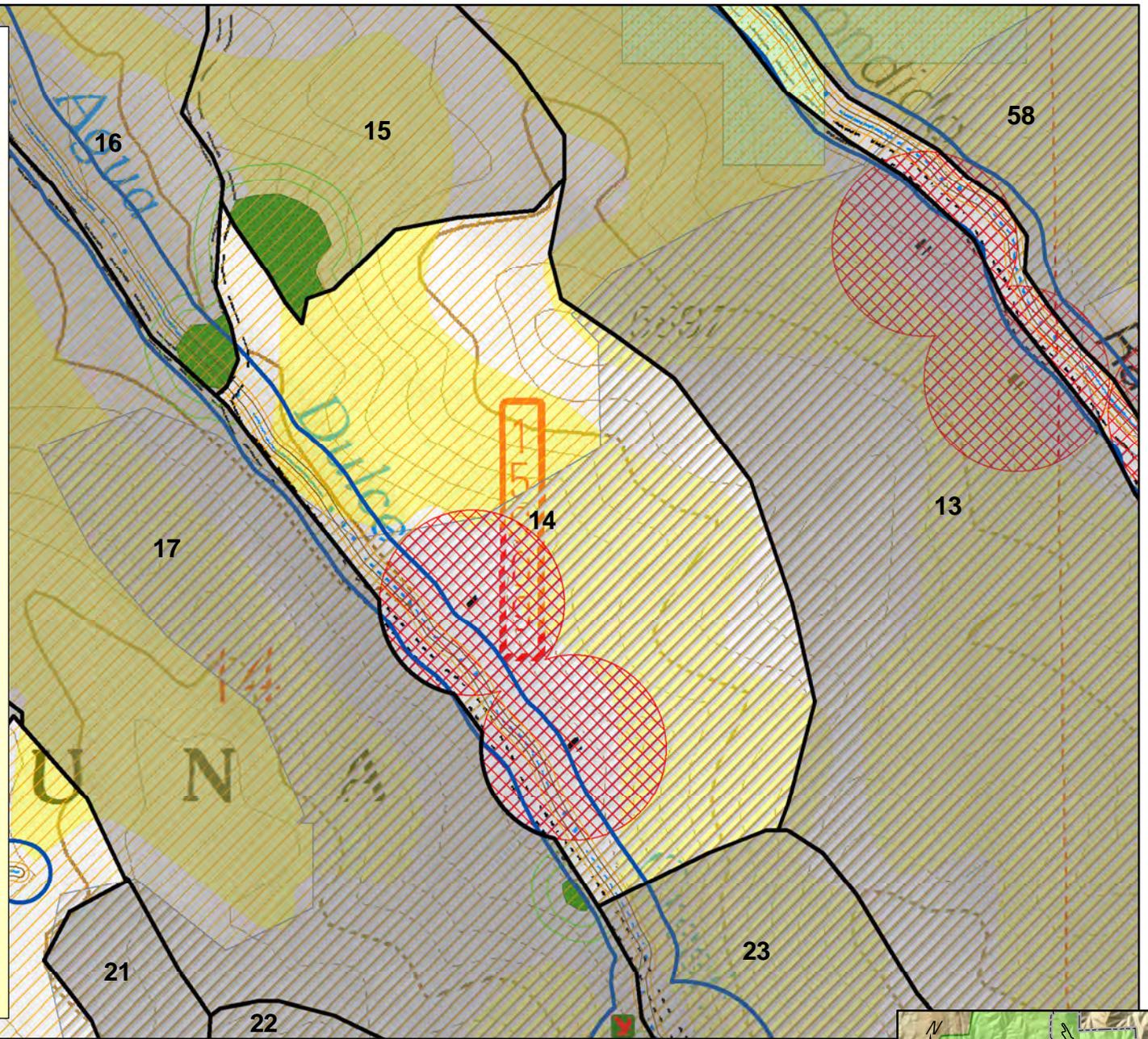
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

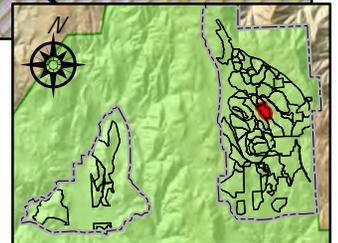
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
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 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 14
 57 ACRES



Mt. Laguna Unit 14 Broadcast Burn

Treatment Area Entire unit - 57 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).

Wildlife

- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

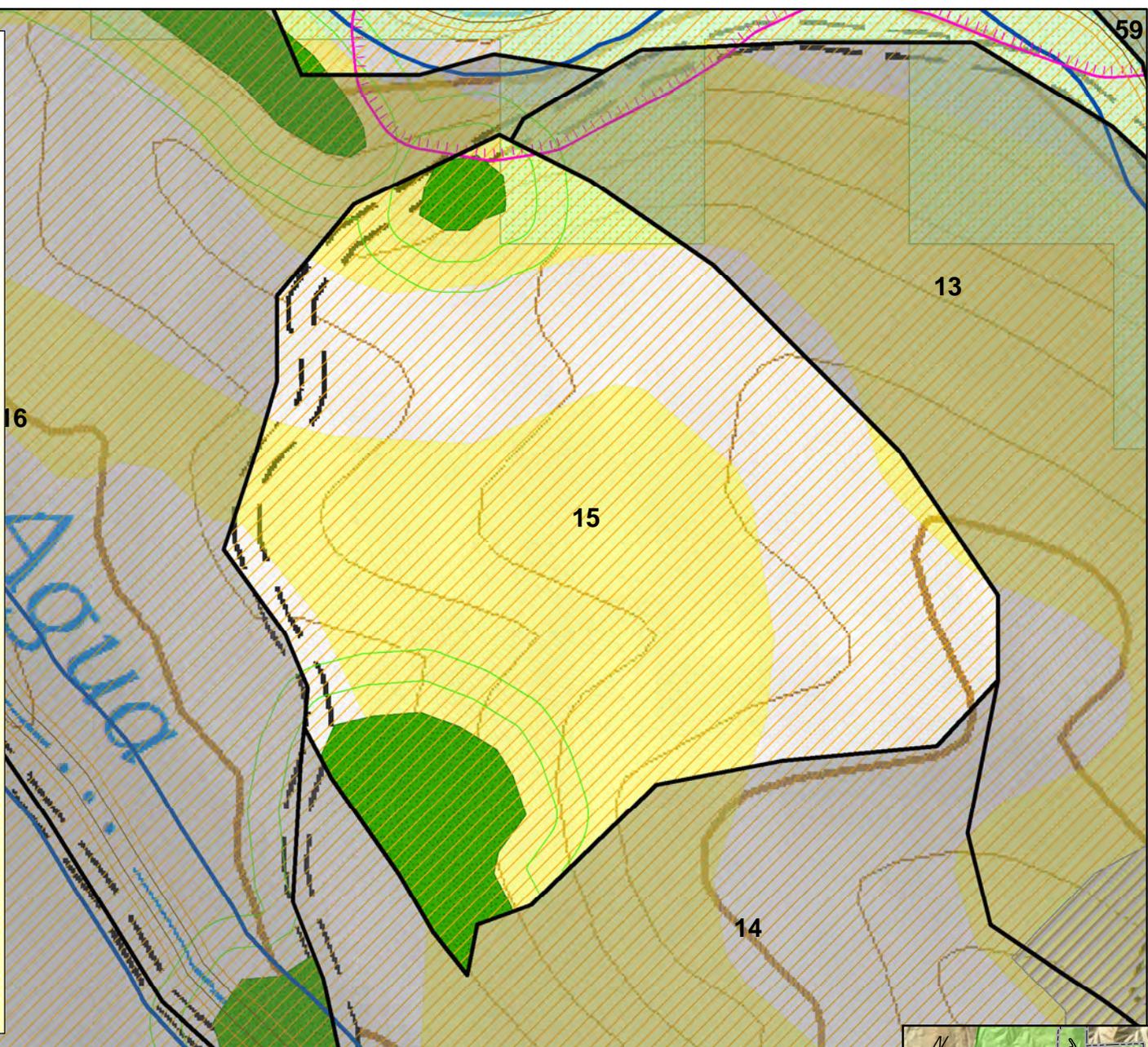
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

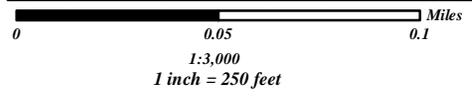
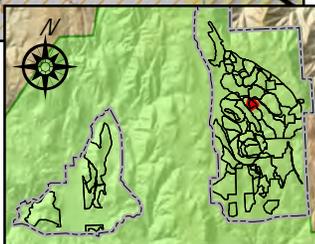
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 15
 23 ACRES



Mt. Laguna Unit 15 Masticate/Broadcast Burn

Treatment Area Entire unit - 23 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag and avoid sensitive plant species (Hall's monardella) from mechanical treatment activities (BOT-2).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

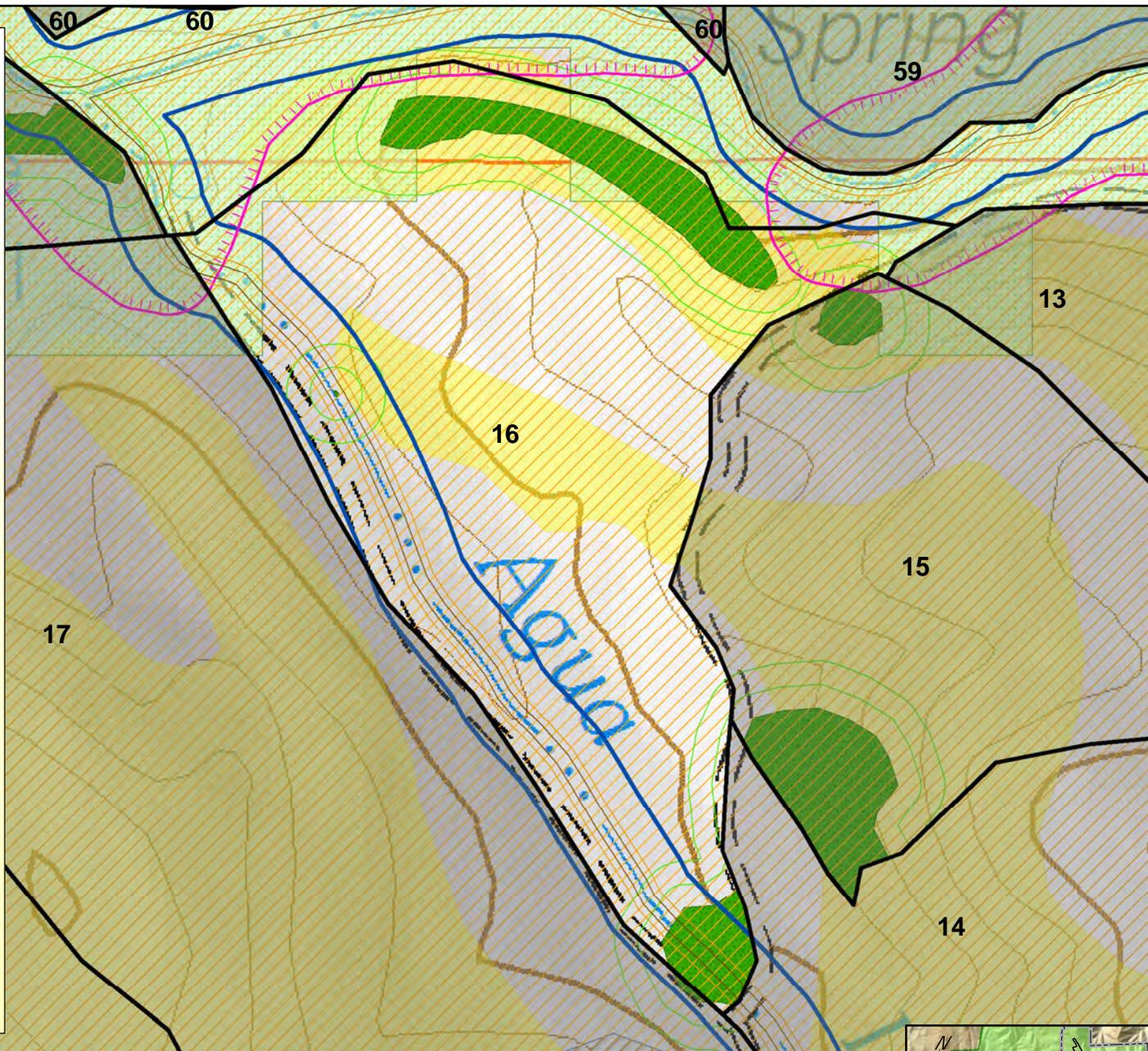
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

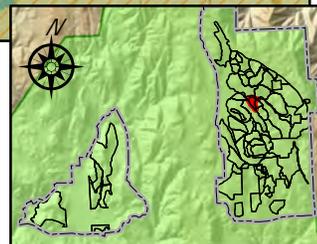
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:4,000
 1 inch = 333 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 16
 32 ACRES



Mt. Laguna Unit 16 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 32 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Hall's monardella, San Bernardino aster) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

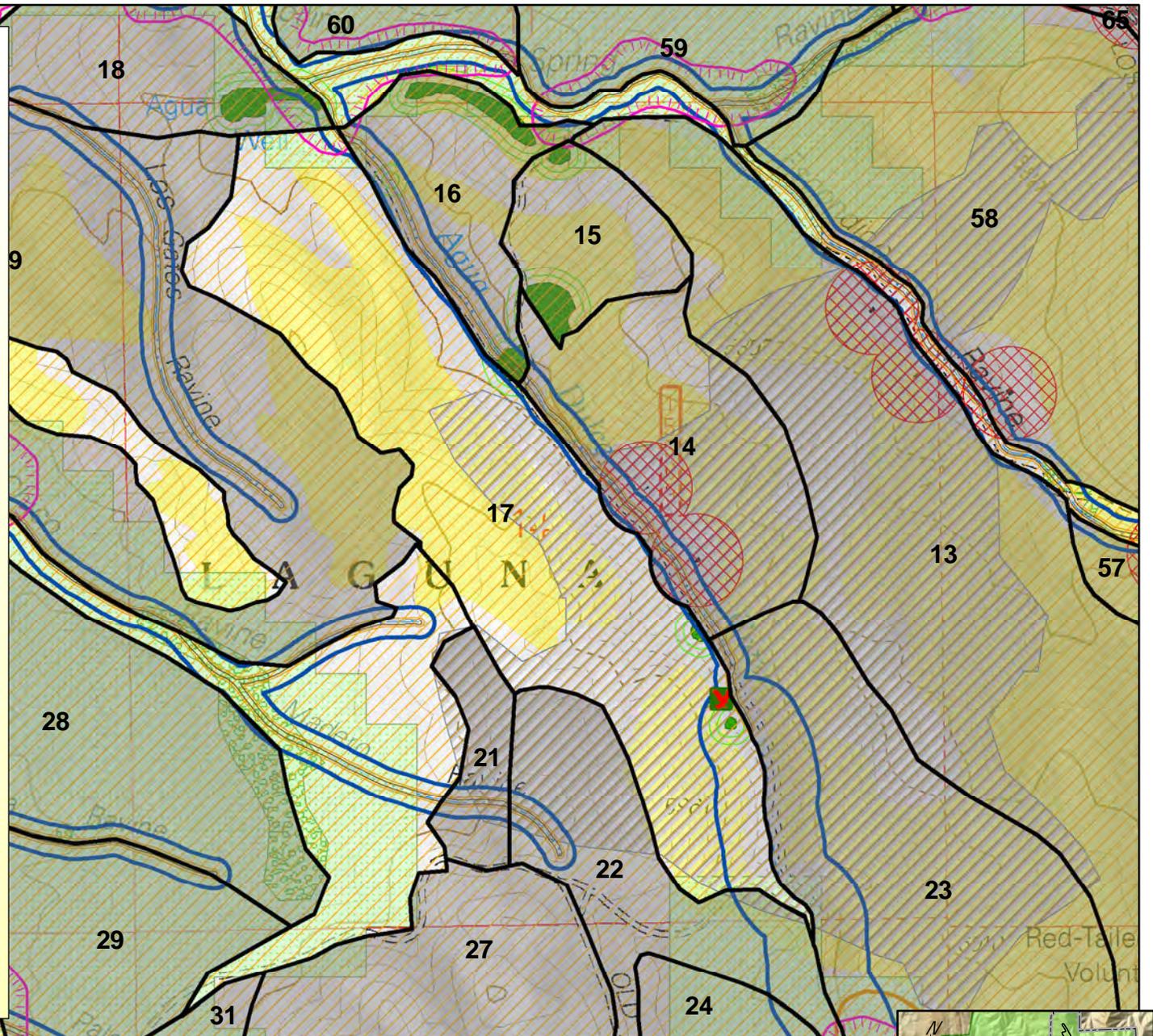
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

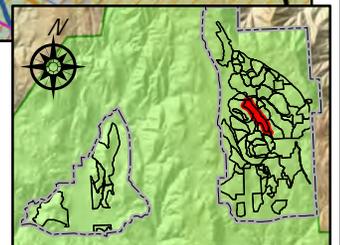
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:12,000
 1 inch = 1,000 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 17
 132 ACRES



June-12

Mt. Laguna Unit 17 Hand Thin/Pile/Burn- Spotted Owl Prescription

Treatment Area Entire unit - 132 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Generally, trees thinned would be no larger than 10" dbh. For protection of the PAC and nest sites, emphasis in this area is to reduce ladder fuels and thin understory prior to broadcast burning. Within the PAC retain existing overstory and midstory canopy except where reduction is needed to remove ladder fuels to support the WUI threat zone. In the PAC retain canopy cover to 65-70%. In HRC retain 50-65% canopy cover. In unit, retain at least 9 logs/ac of the largest logs available; retain 4-8 of the largest snags/ac (ideally Jeffrey pine greater than 15" dbh and 20' tall)
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees). Multiple entries for thinning will be necessary to ensure pile burning does not cause unacceptable damage to the residual stand. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Broadcast Burn: Firelines will be hand constructed where needed, including around snags, logs, and woodrat nests prior to prescribed broadcast burning. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burn prescription is low to moderate.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Hall's monardella, Mt Laguna aster, * vanishing wild buckwheat*) from hand treatment activities (BOT-2). *See general directions for Mt Laguna area (AMS, BOT-3).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).

Hydrology and Soils

- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- Protect known active or inactive raptor nest areas from project activities. A no disturbance buffer around active nests will be required from nest-site selection to fledgling (WLD-6).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

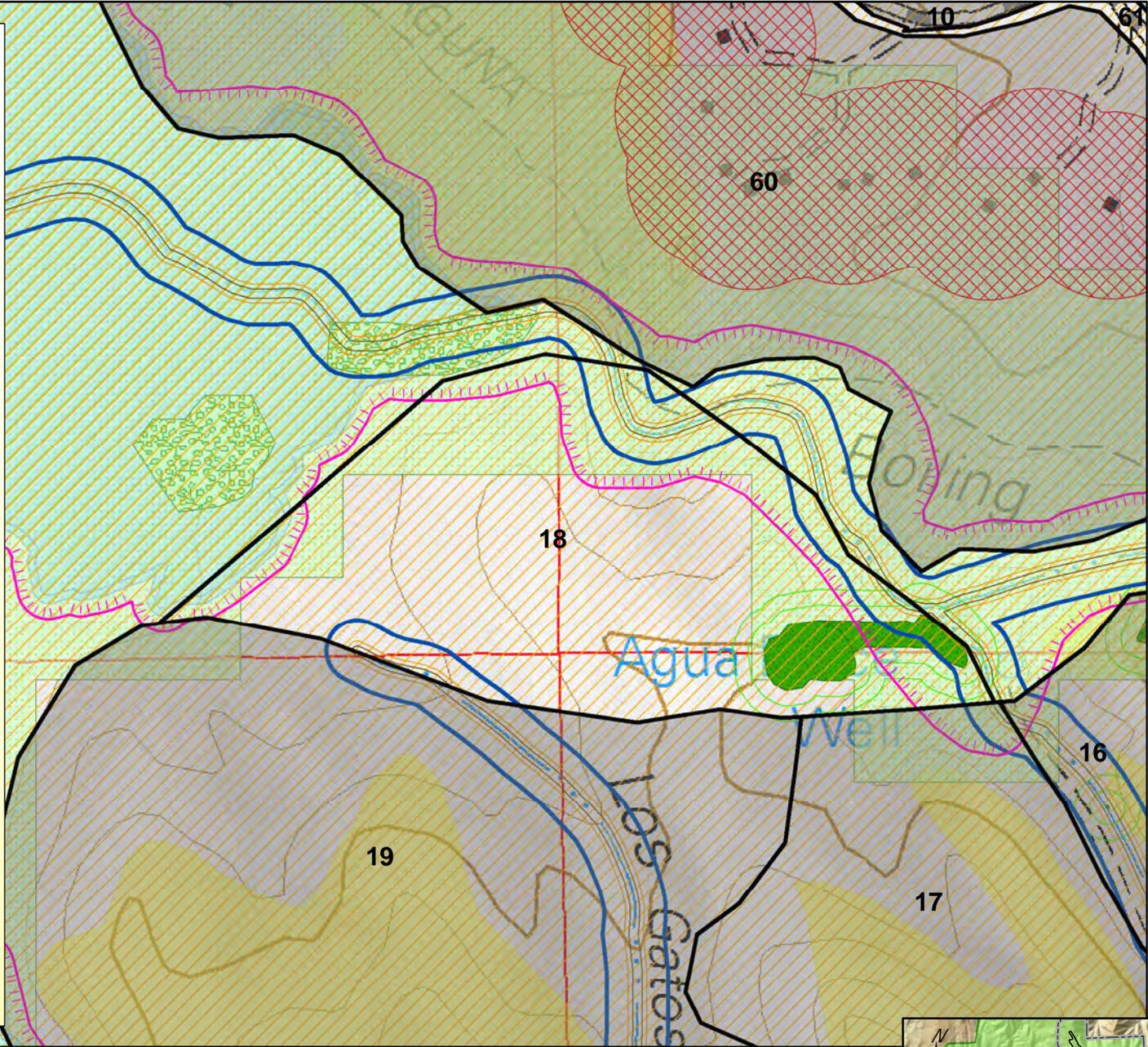
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

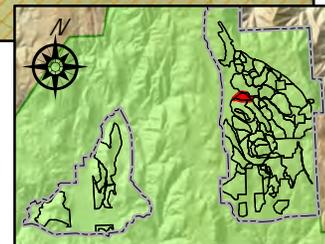
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 18
 42 ACRES



Mt. Laguna Unit 18 Hand Thin/Pile/Burn

Treatment Area Entire unit - 42 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood. In WUI threat, chaparral stands should only be treated to minimize potential for ladder fuels into forested stands (i.e. cut shrubs 10' of the drip line of trees and 100' around the conifer edges).
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag/avoid sensitive plant species (vanishing wild buckwheat,* velvety false lupine) from hand treatment activities(BOT-2). *See general direction for Mt Laguna area (AMS, BOT-3). Locate personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).

Hydrology and Soils

- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).

Monitoring Notes:

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

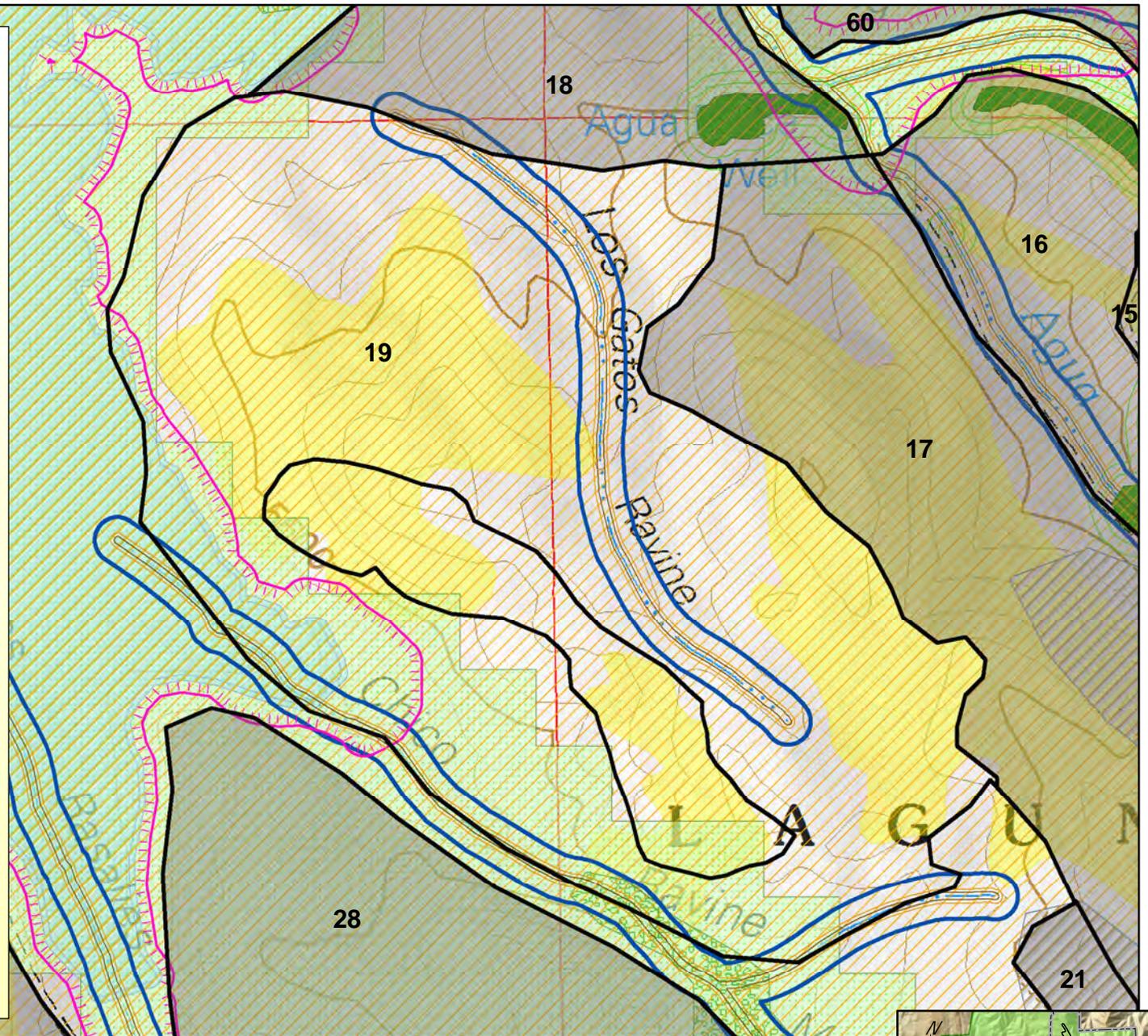
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

Other Features

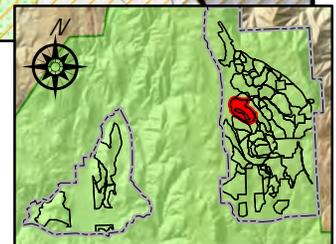
- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:8,000
 1 inch = 667 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 19
 174 ACRES



Mt. Laguna Unit 19 Hand Thin/Pile/Burn

Treatment Area Entire unit - 174 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood. In WUI threat, chaparral stands should only be treated to minimize potential for ladder fuels into forested stands (i.e. cut shrubs 10' of the drip line of trees and 100' around the conifer edges).
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

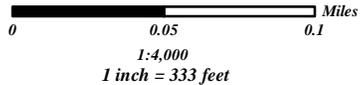
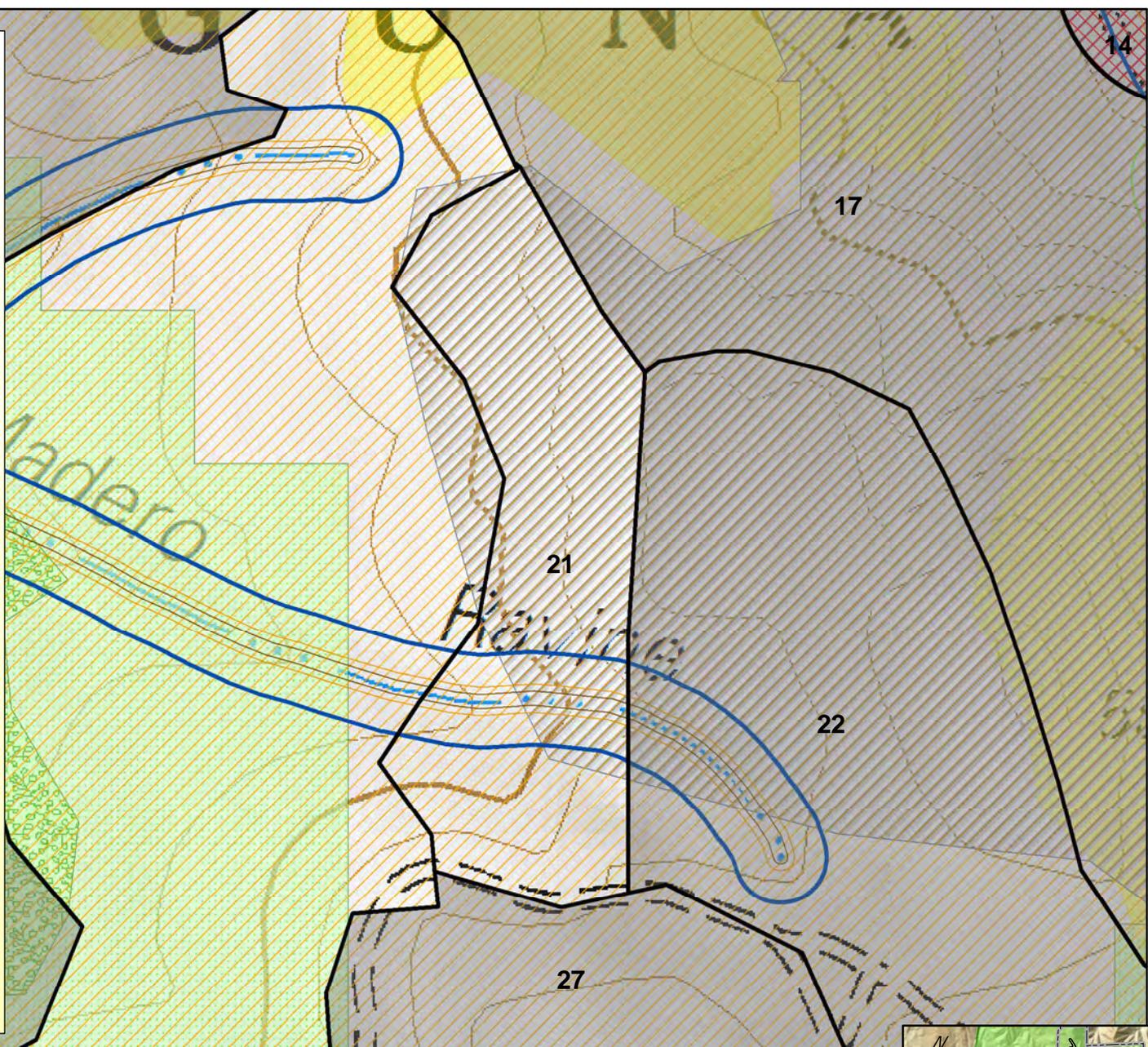
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

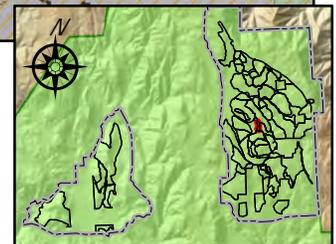
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest



UNIT 21
 13 ACRES



Mt. Laguna Unit 21 Hand Thin/Pile/Burn

Treatment Area Entire unit - 13 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Mt Laguna aster*) from hand treatment activities(BOT-2). *See general direction for Mt Laguna area. Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

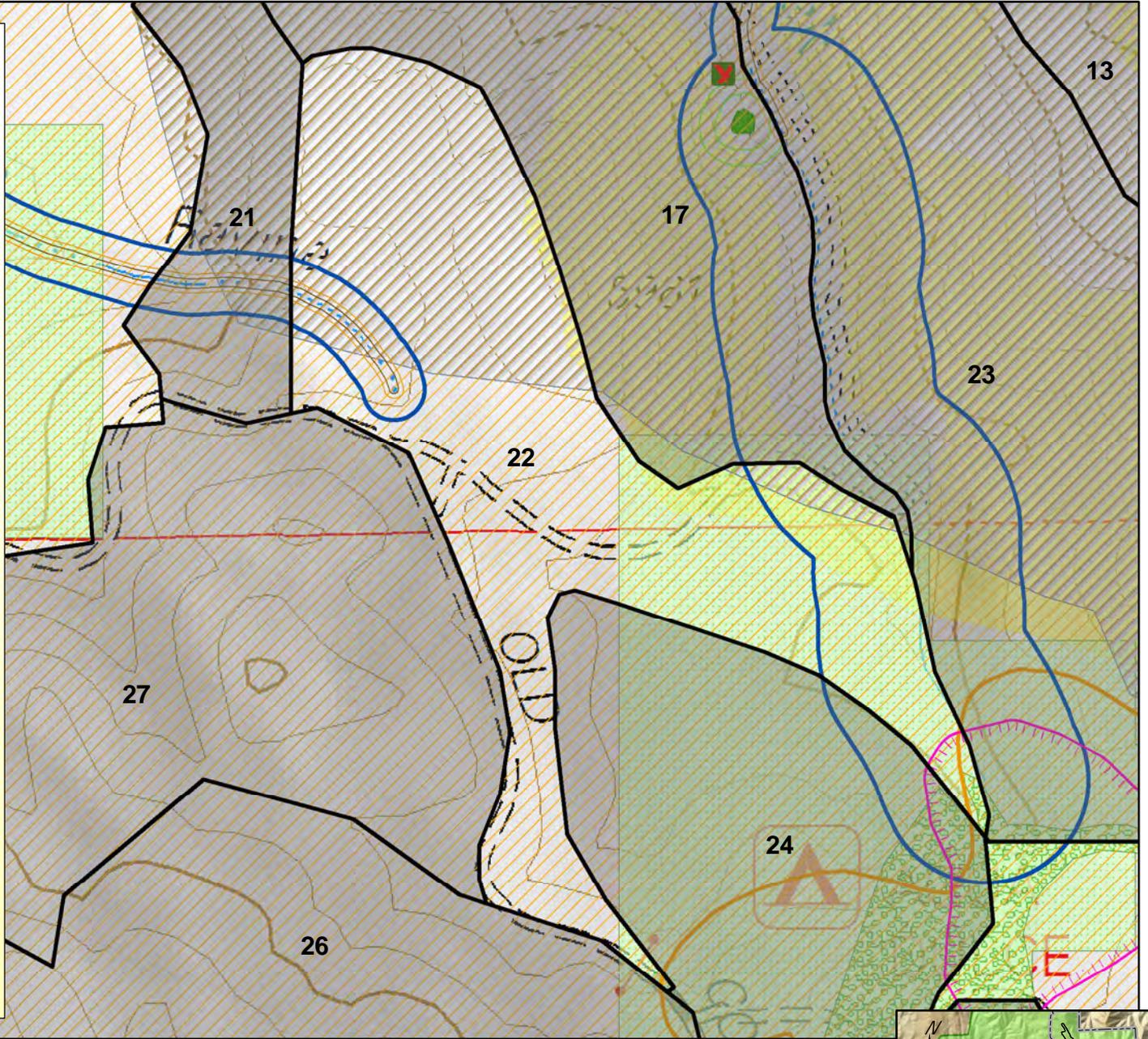
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

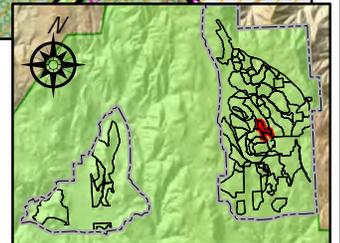
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:5,892
 1 inch = 491 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 22
 49 ACRES



Mt. Laguna Unit 22 Masticate/Broadcast Burn

Treatment Area Entire unit - 49 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Mt Laguna aster*) from mechanical treatment activities (BOT-2), *See general direction for Mt Laguna area (AMS).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edges (HYD-9).

Hydrology and Soils

- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retail all woodrat nests in the WUI threat zone (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

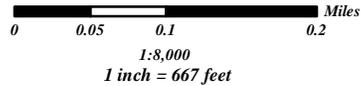
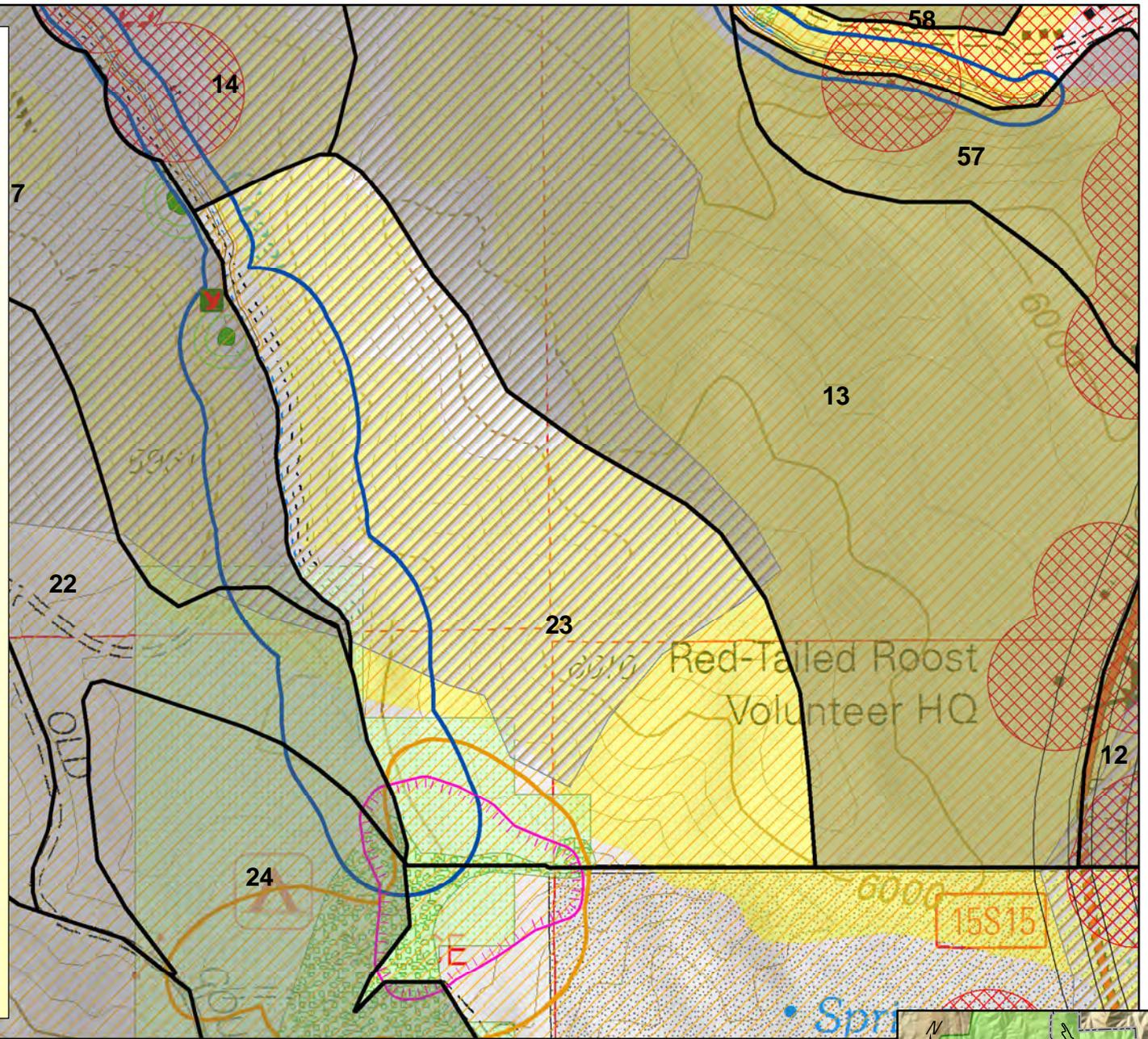
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

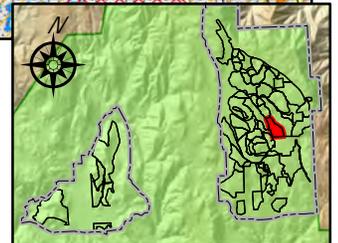
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest

UNIT 23
 102 ACRES



Mt. Laguna Unit 23 Broadcast Burn

Treatment Area Entire unit - 102 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).

Wildlife

- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

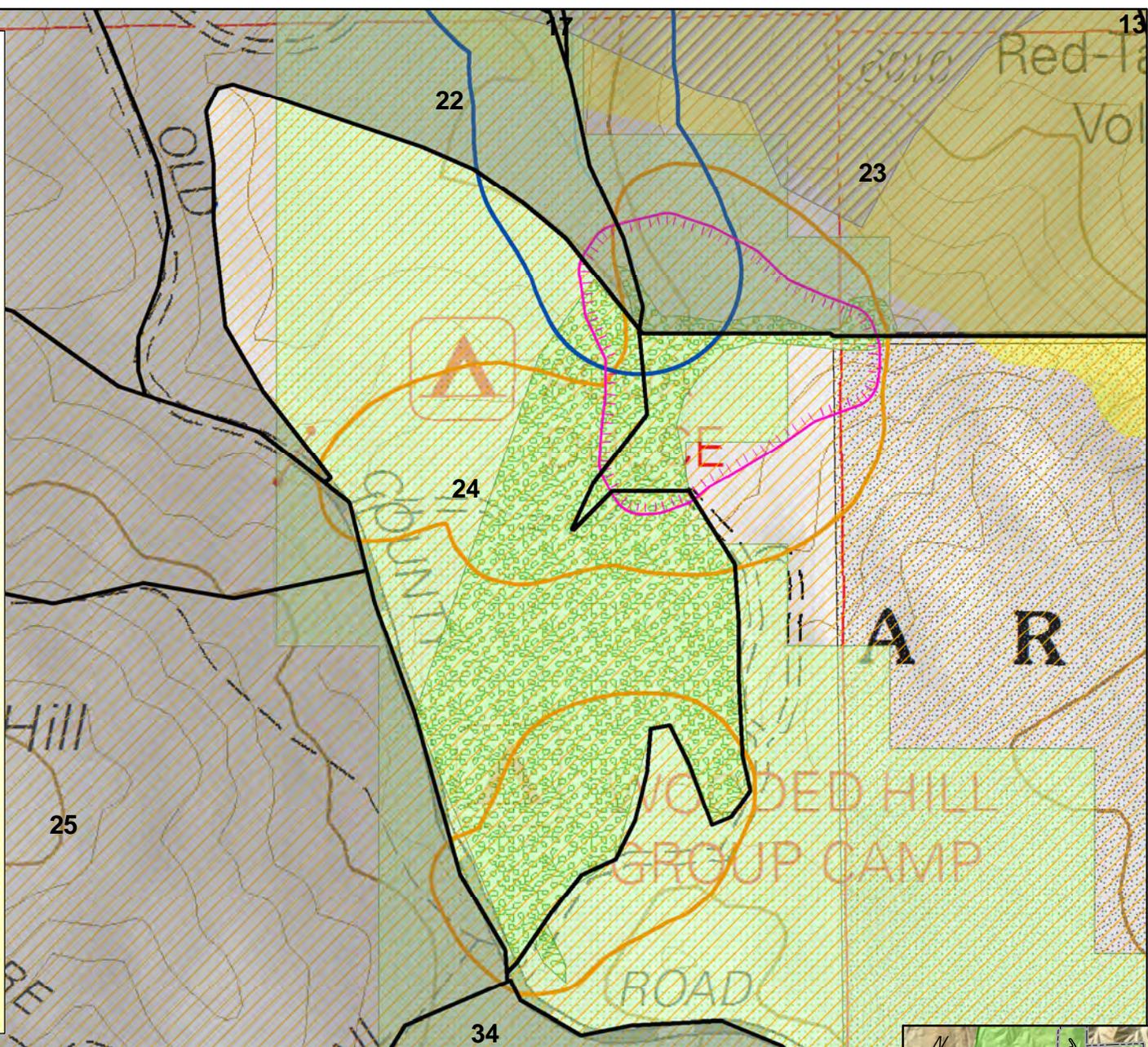
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

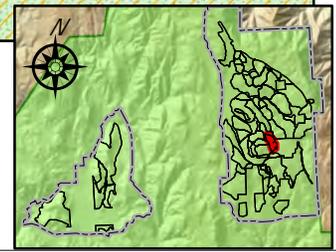
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



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 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 24
 58 ACRES



Mt. Laguna Unit 24 Broadcast Burn

Treatment Area Entire unit - 58 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).

Wildlife

- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Select populations of horkelia, the host plant for the Laguna Mts skipper, will be treated in order to monitor the plants response to prescribed fire treatments. Monitoring will occur pre and post treatment to determine the rate and degree of regrowth (treating areas with high and low invasive grass cover).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

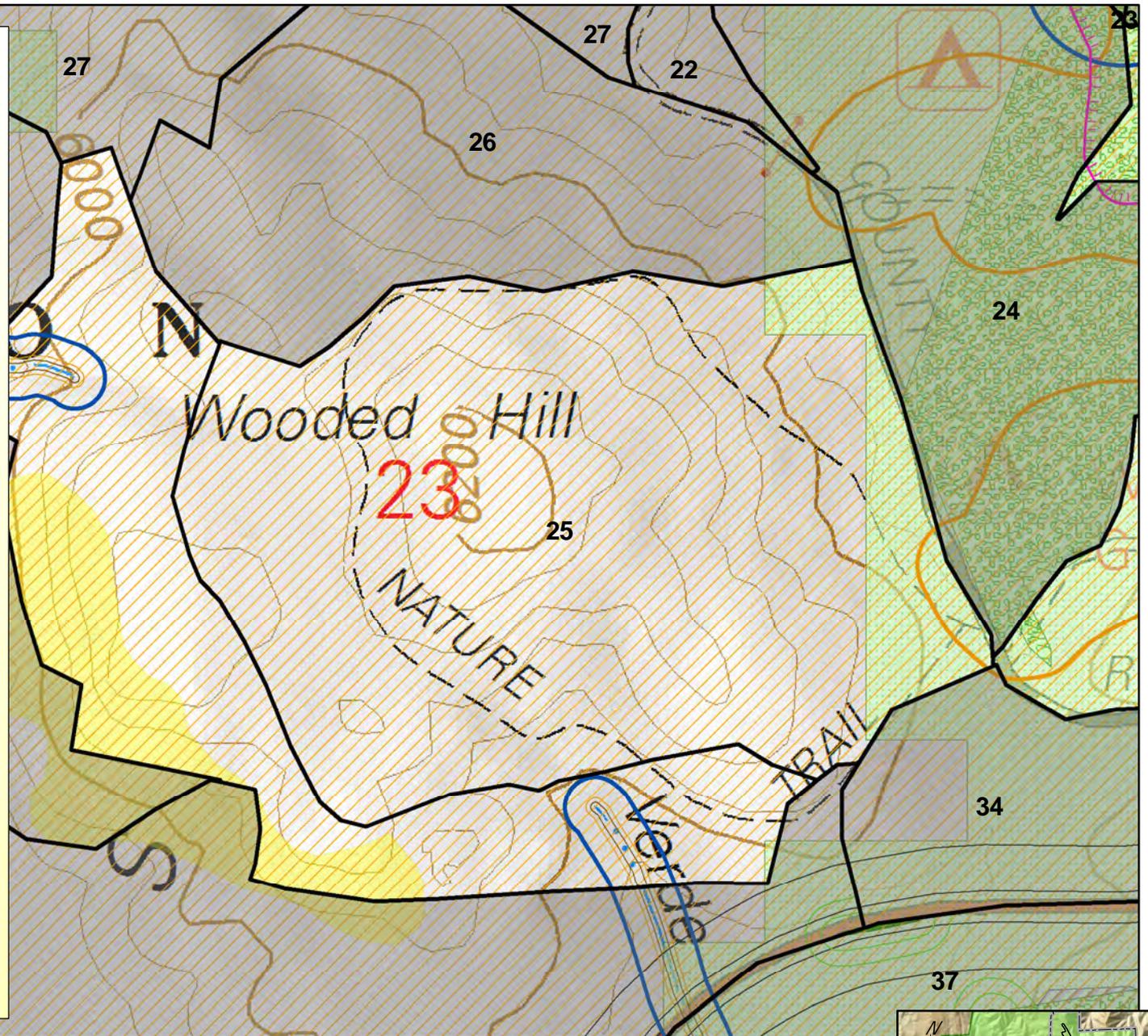
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

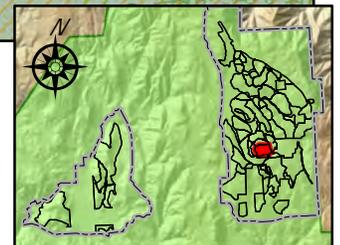
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



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Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 25
 82 ACRES



Mt. Laguna Unit 25 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 82 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag/avoid sensitive plant species (Cuyamaca larkspur, Mt Laguna aster*) from hand and mechanical treatment activities (BOT-2). *See general direction for Mt Laguna area (AMS). Locate personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Botany

- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

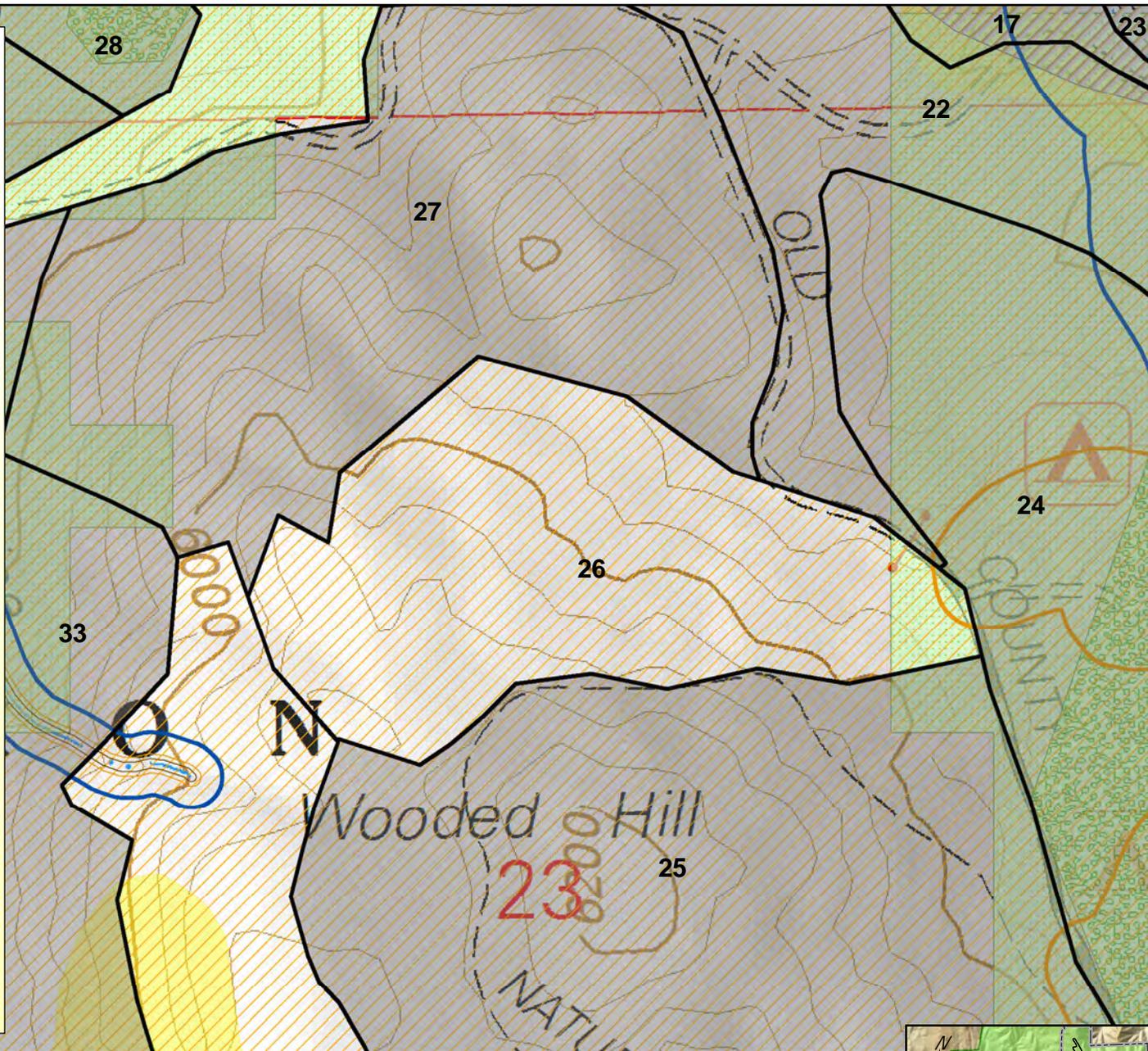
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

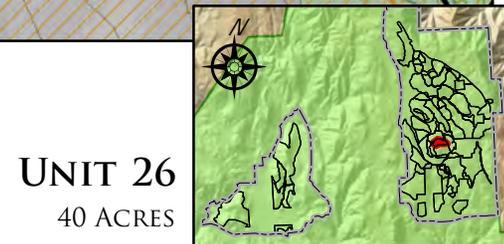
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 26
 40 ACRES

Mt. Laguna Unit 26 Hand Thin/Pile/Burn/Broadcast Burn

Treatment Area Entire unit - 40 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, top and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag and avoid sensitive plant species (Mt Laguna aster*) from hand treatment activities(BOT-2). *See general direction for Mt Laguna area (AMS). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

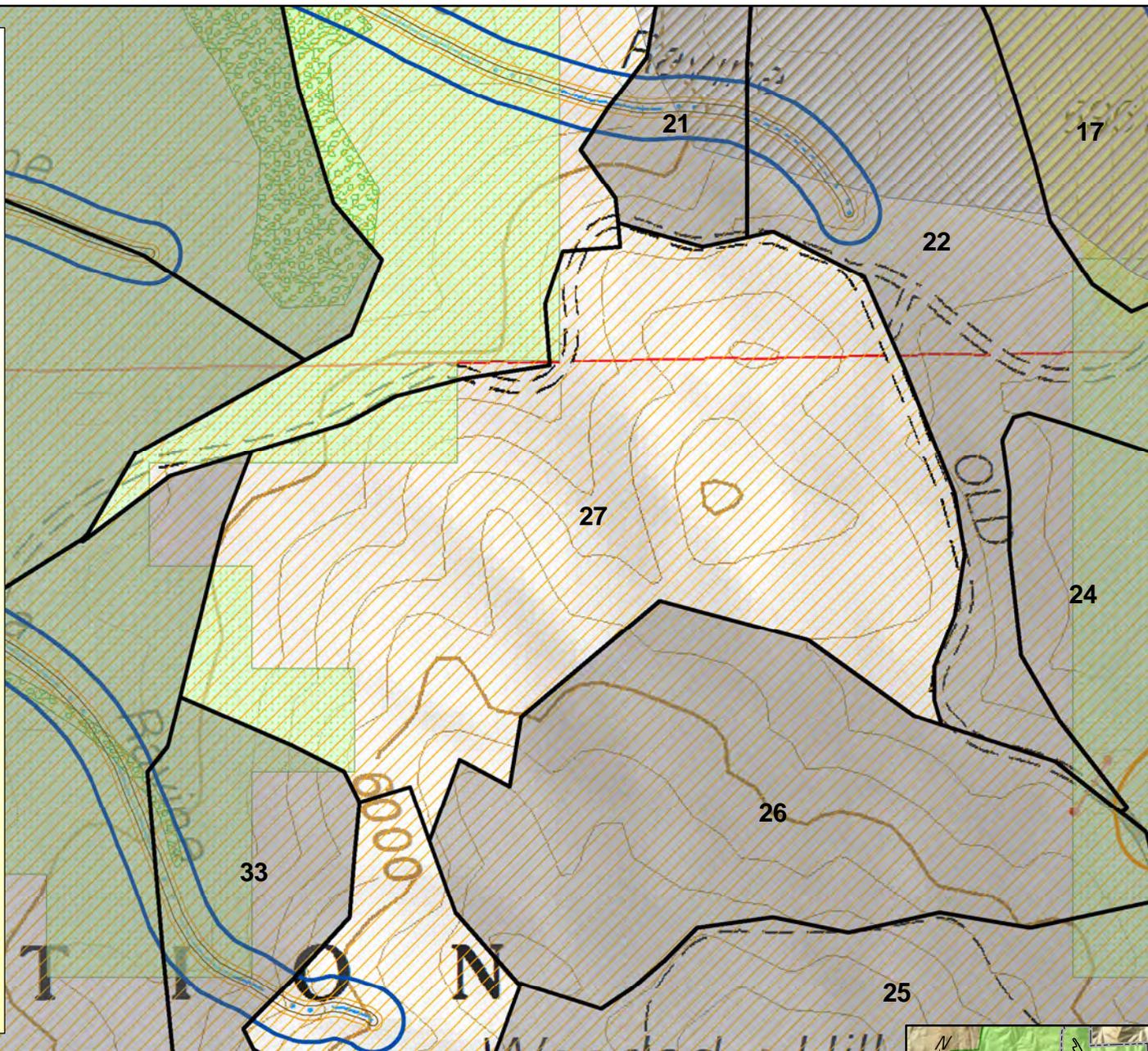
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

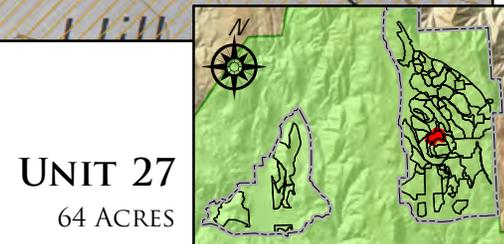
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



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Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 27
 64 ACRES



Mt. Laguna Unit 27 Broadcast Burn

Treatment Area Entire unit - 64 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

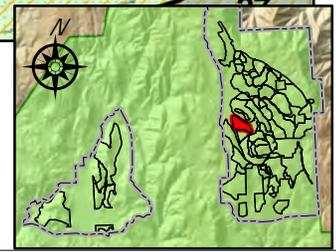
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



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Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 28
 97 ACRES



Mt. Laguna Unit 28 Hand Thin/Pile/Burn

Treatment Area Entire unit - 97 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood. In WUI threat, chaparral stands should only be treated to minimize potential for ladder fuels into forested stands (i.e. cut shrubs 10' of the drip line of trees and 100' around the conifer edges).
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Parish's meadowfoam) from hand treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

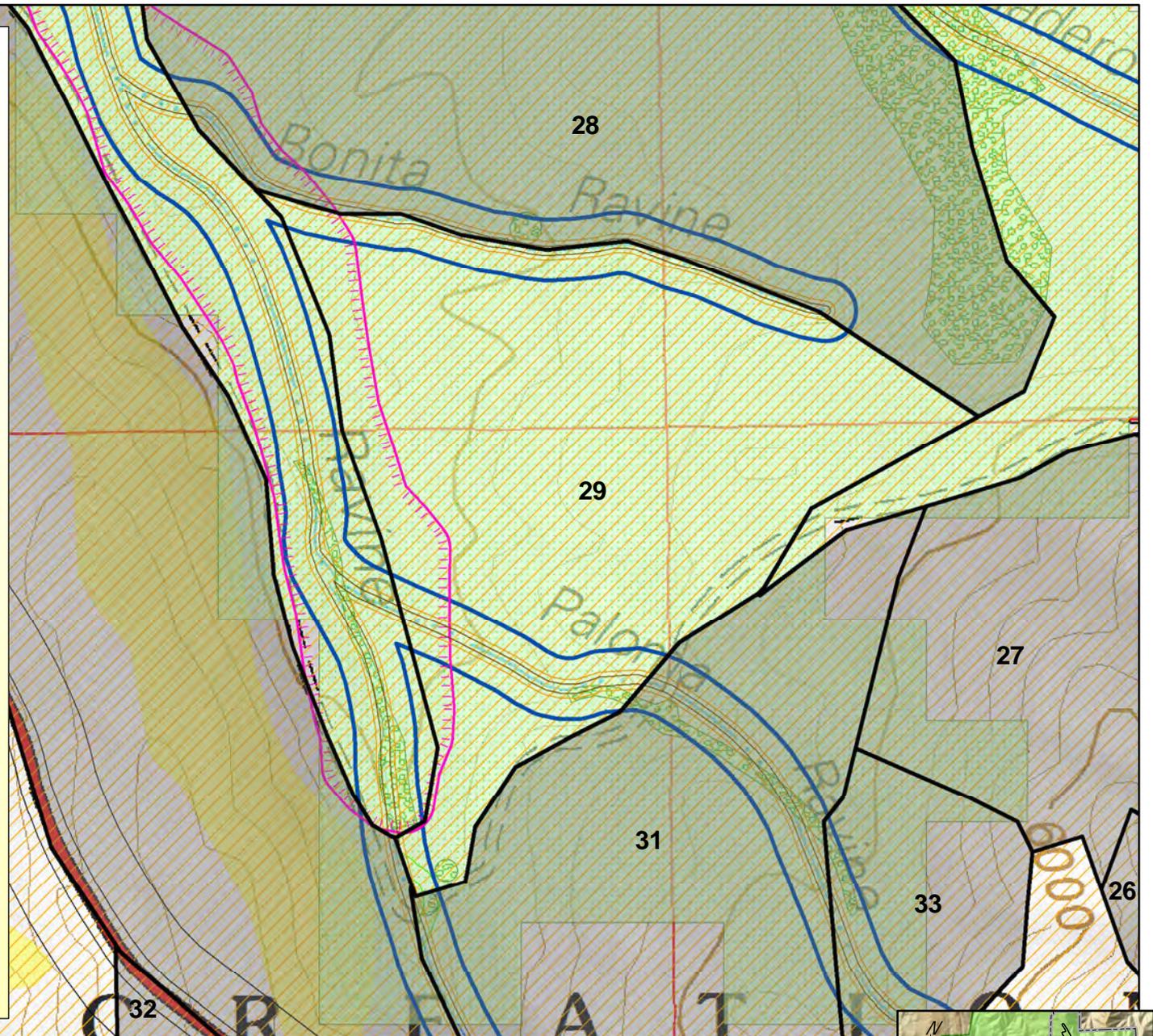
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

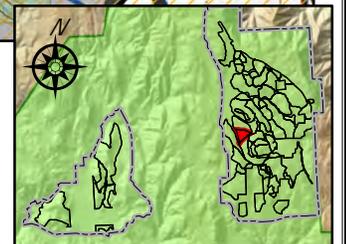
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 29
 54 ACRES



Mt. Laguna Unit 29 Masticate/Broadcast Burn

Treatment Area Entire unit - 54 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Parish's meadowfoam) from mechanical treatment activities (BOT-2).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).

Hydrology and Soils

- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

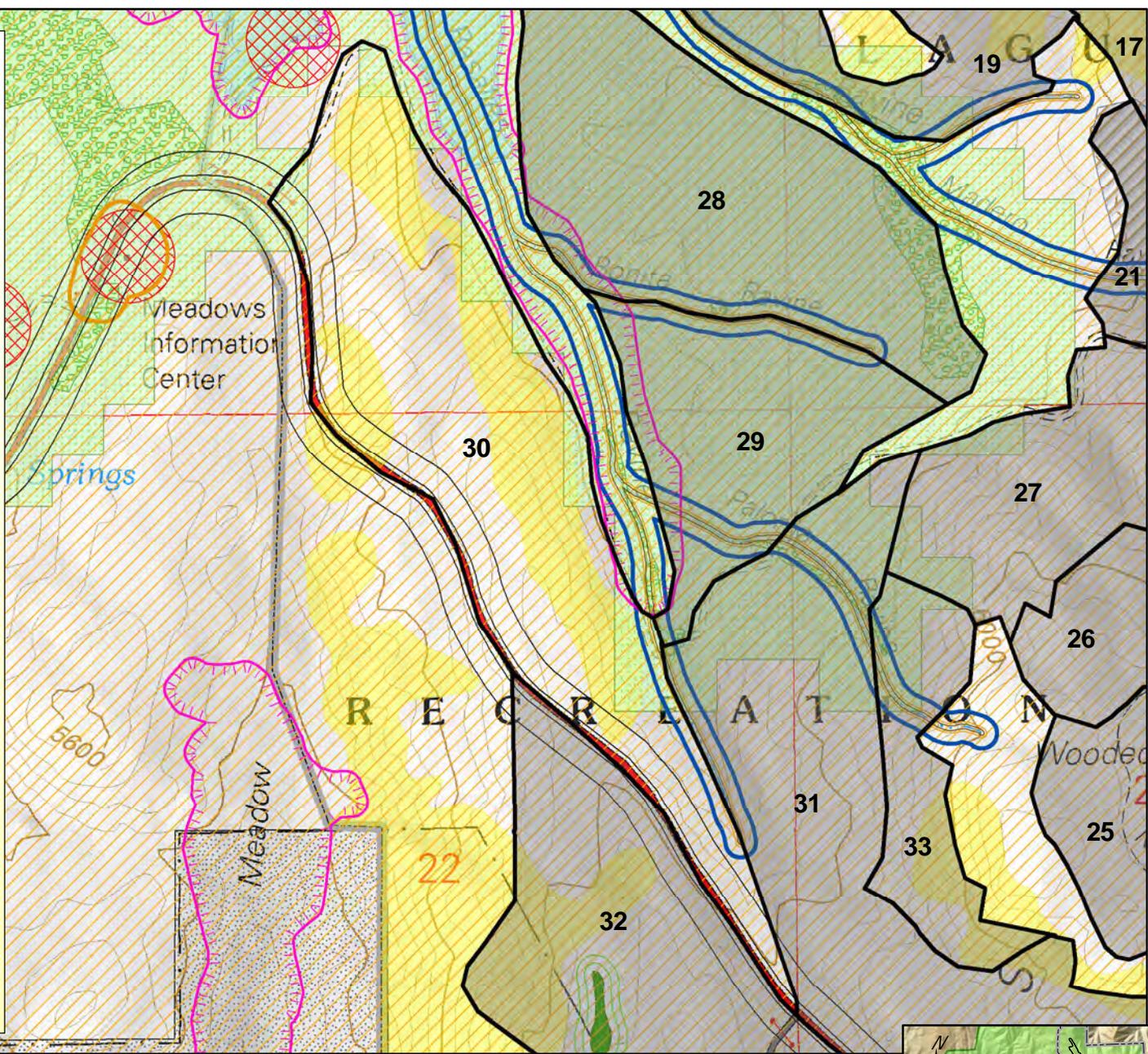
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

Other Features

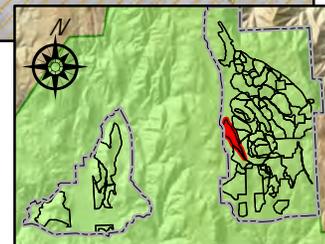
- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:12,000
 1 inch = 1,000 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 30
 125 ACRES



Mt. Laguna Unit 30 Broadcast Burn

Treatment Area Entire unit - 125 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

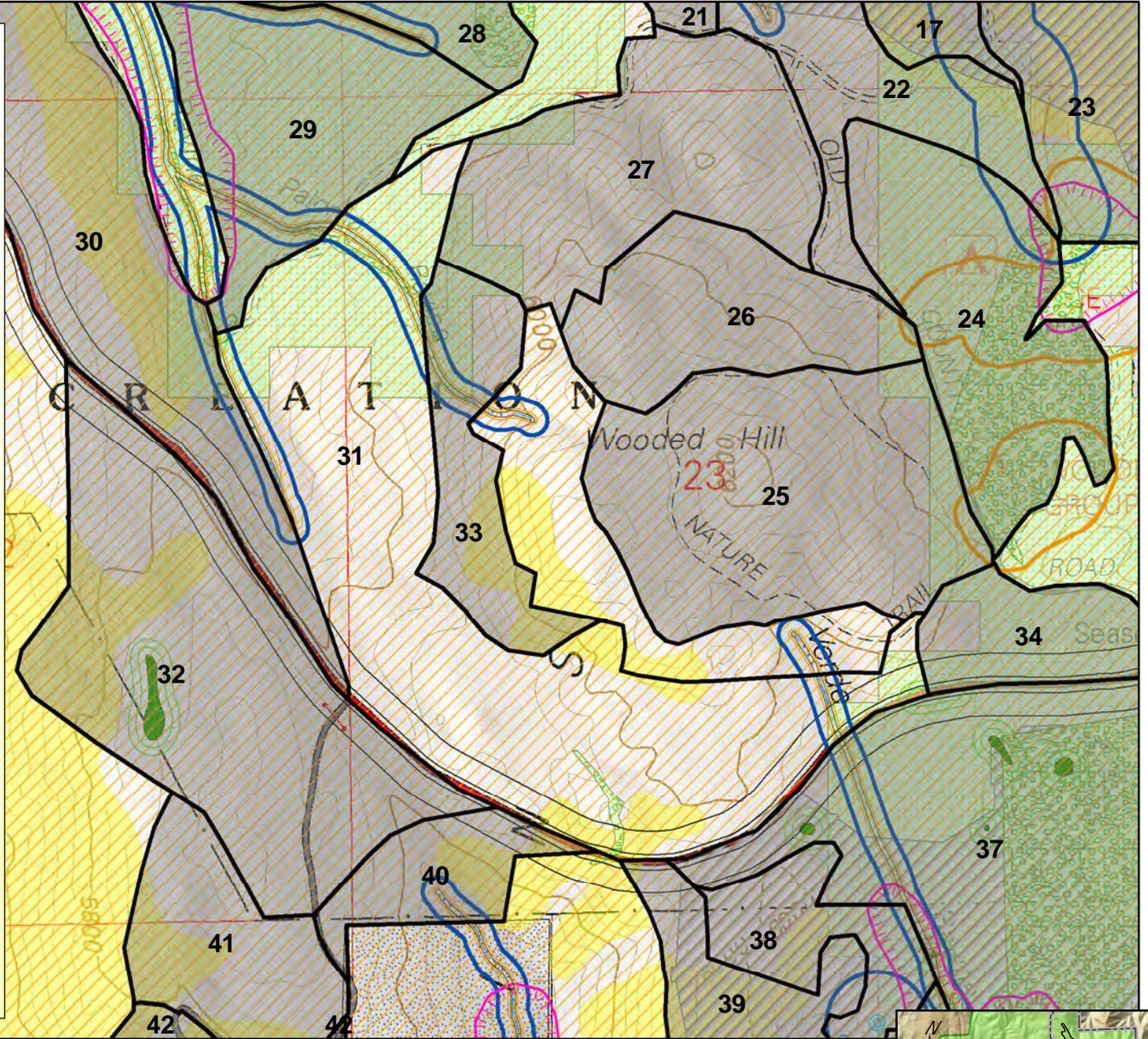
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

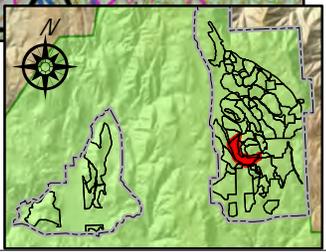
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:12,000
 1 inch = 1,000 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 31
 147 ACRES



Mt. Laguna Unit 31 Masticate/Broadcast Burn

Treatment Area Entire unit - 147 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag and avoid sensitive plant species (Mt Laguna aster*) from mechanical treatment activities(BOT-2). *See general direction for Mt Laguna area (AMS).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).

Hydrology and Soils

- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retail all woodrat nests in the WUI threat zone (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

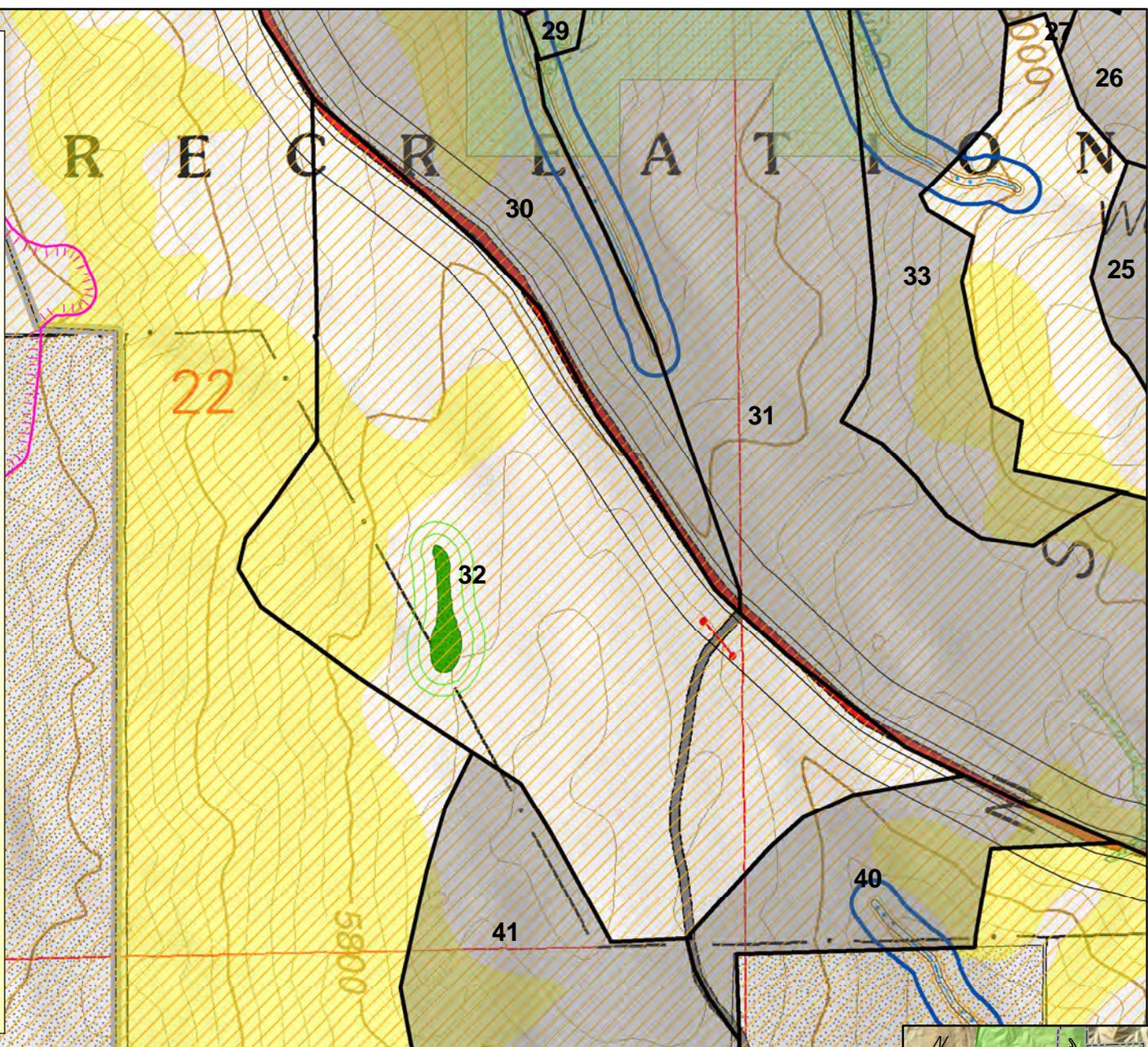
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

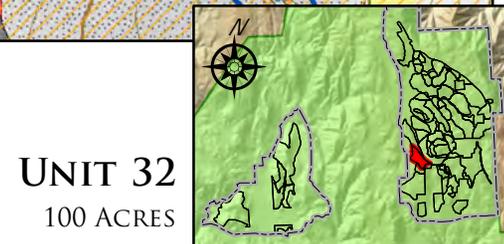
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:8,000
 1 inch = 667 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 32
 100 ACRES



Mt. Laguna Unit 32 Masticate/Broadcast Burn

Treatment Area Entire unit - 107 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag and avoid sensitive plant species (Mt Laguna aster*) from mechanical treatment activities(BOT-2). *See general direction for Mt Laguna area (AMS).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Hydrology and Soils

- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

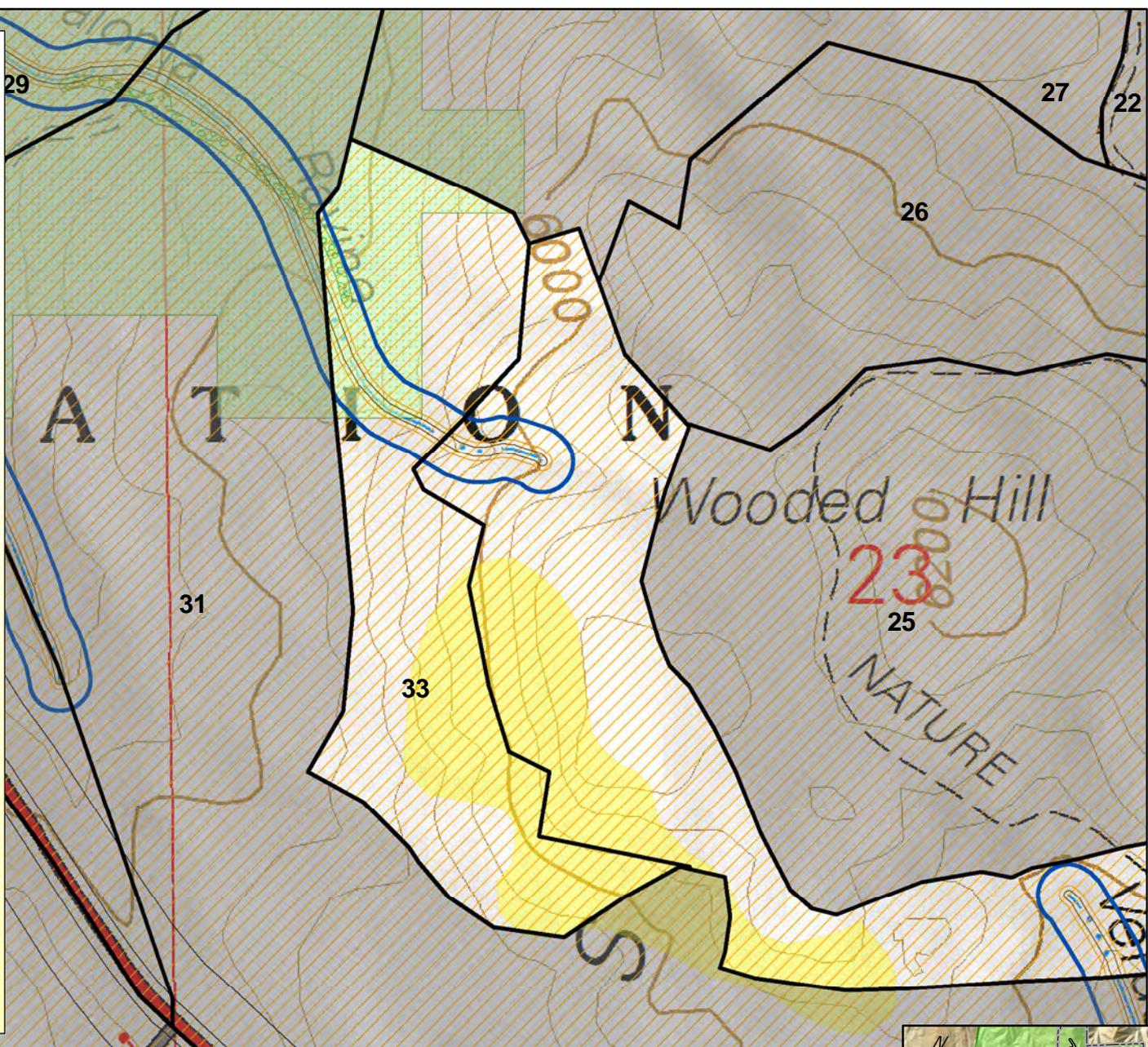
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

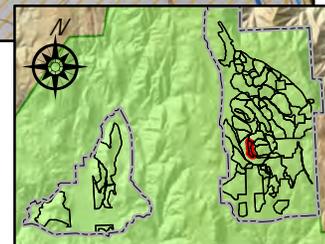
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 33
 29 ACRES



Mt. Laguna Unit 33 Hand Thin/Pile/Burn

Treatment Area Entire unit - 29 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood. In WUI threat, chaparral stands should only be treated to minimize potential for ladder fuels into forested stands (i.e. cut shrubs 10' of the drip line of trees and 100' around the conifer edges).
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).

Hydrology and Soils

- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

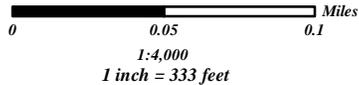
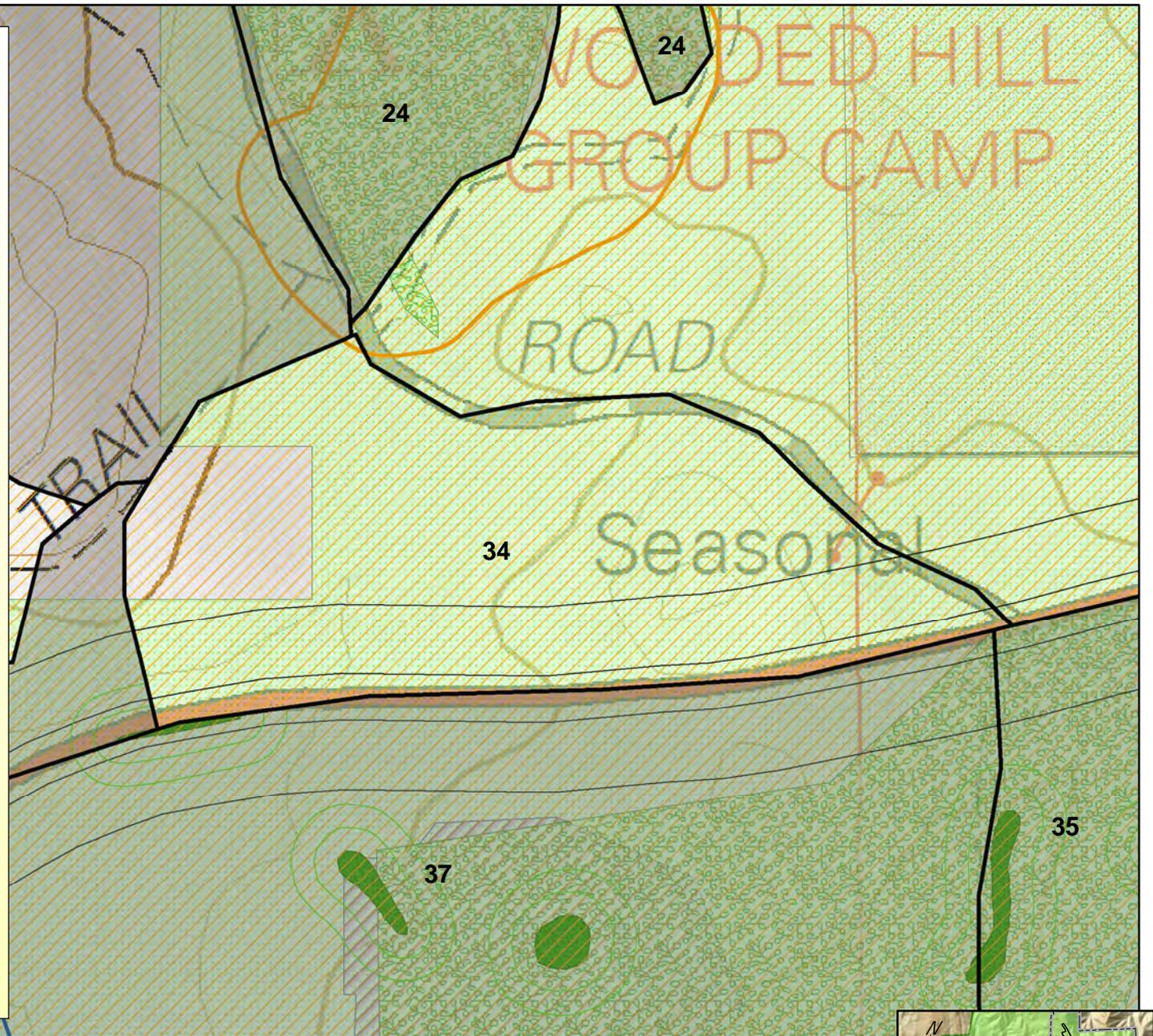
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

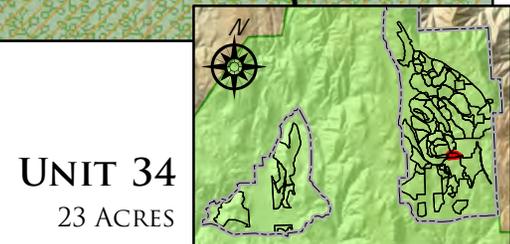
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 34
 23 ACRES



Mt. Laguna Unit 34 Broadcast Burn

Treatment Area Entire unit - 23 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

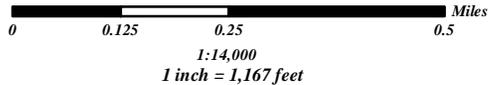
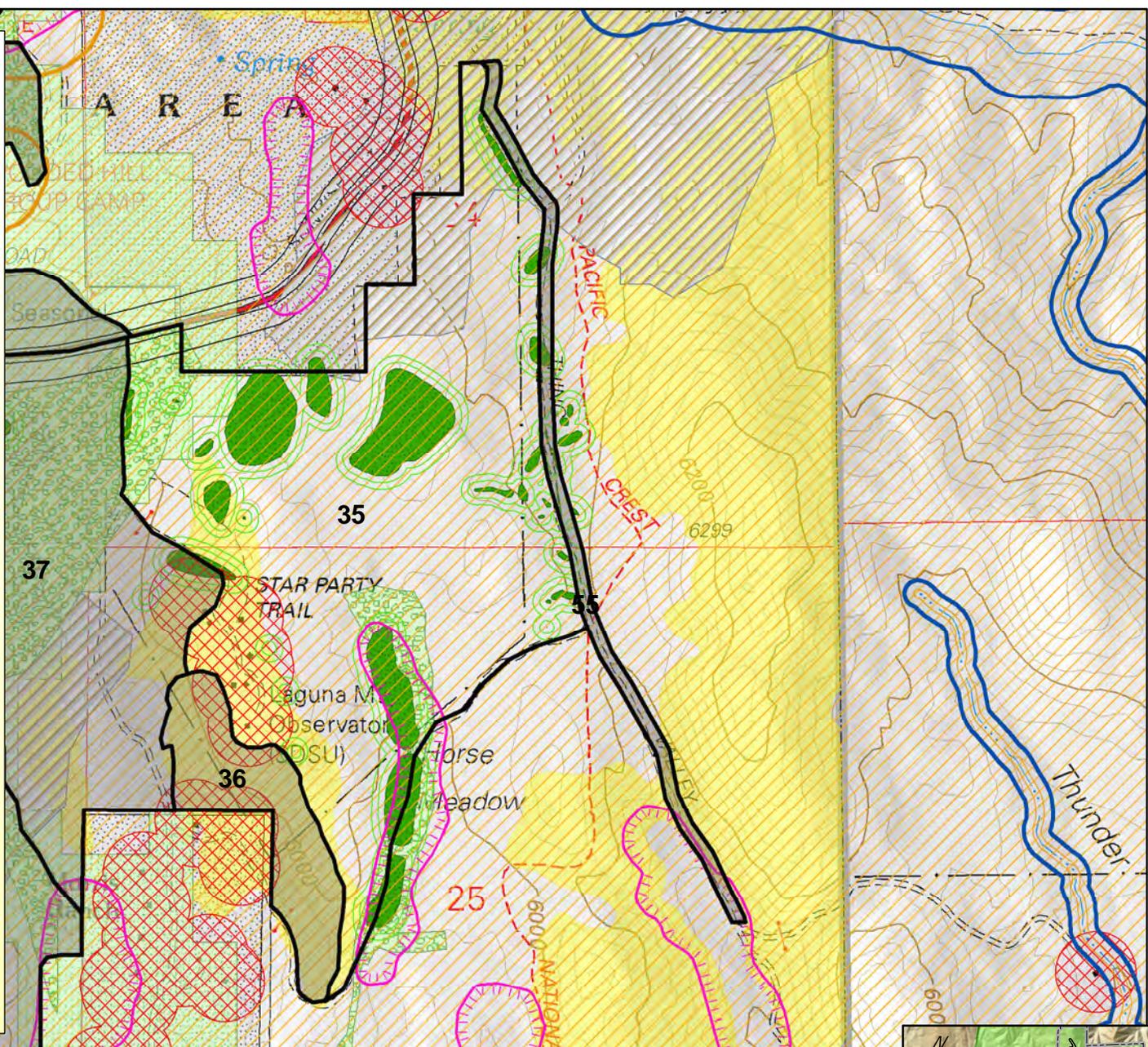
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

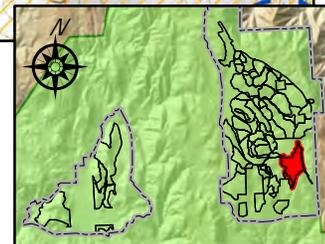
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 35
 236 ACRES



Mt. Laguna Unit 35 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 236 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 16 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 220 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent/discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Flag and avoid sensitive plants (Hall's monardella, Mt Laguna aster,* San Bernardino aster) from hand and mechanical treatment activities(BOT-2). *See general direction for Mt Laguna area (AMS). Locate personal use firewood greater than 100' from these plants (BOT-5).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gulying (HYD-8).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).

Wildlife

- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retain all woodrat nests in the WUI threat zone. Retain woodrat nests within WUI defense zones where they do not threaten the fuels integrity (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

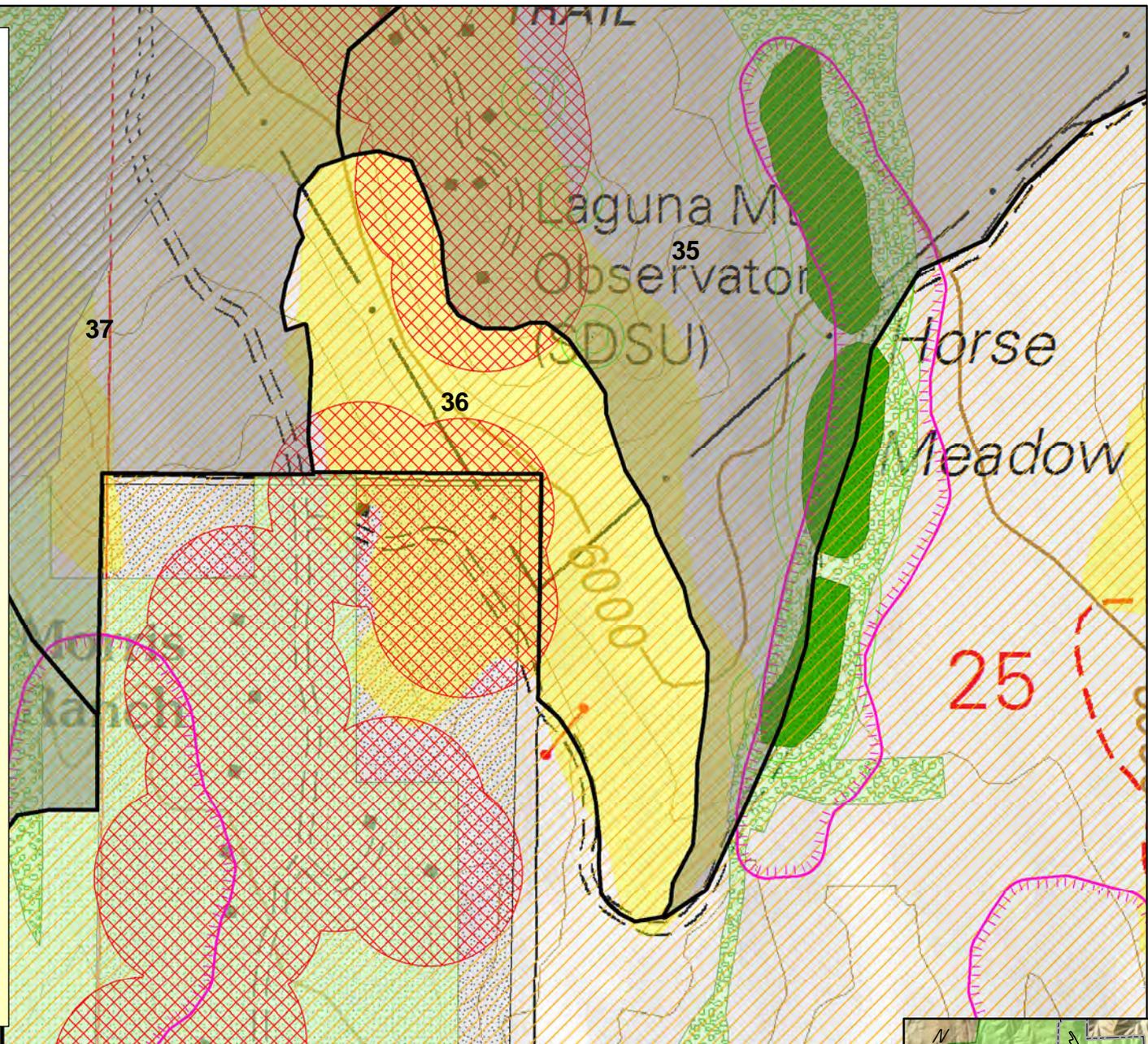
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

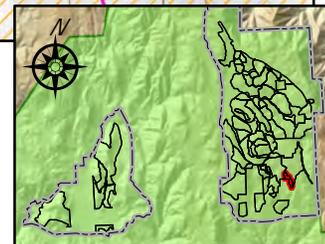
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet



UNIT 36
 29 ACRES

Mt. Laguna Unit 36 Hand Thin/Pile/Burn

Treatment Area Entire unit - 28 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped on or off site, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.

Treatment Area Only in WUI defense - 7 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure. Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 21 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. In WUI threat, chaparral stands should only be treated to minimize potential for ladder fuels into forested stands (i.e. cut shrubs 10' of the drip line of trees and 100' around the conifer edges).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Flag and avoid sensitive plant species (Hall's monardella) from hand treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5)
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).

Recreation and Visual

- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

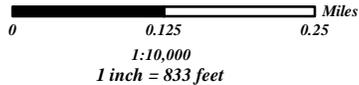
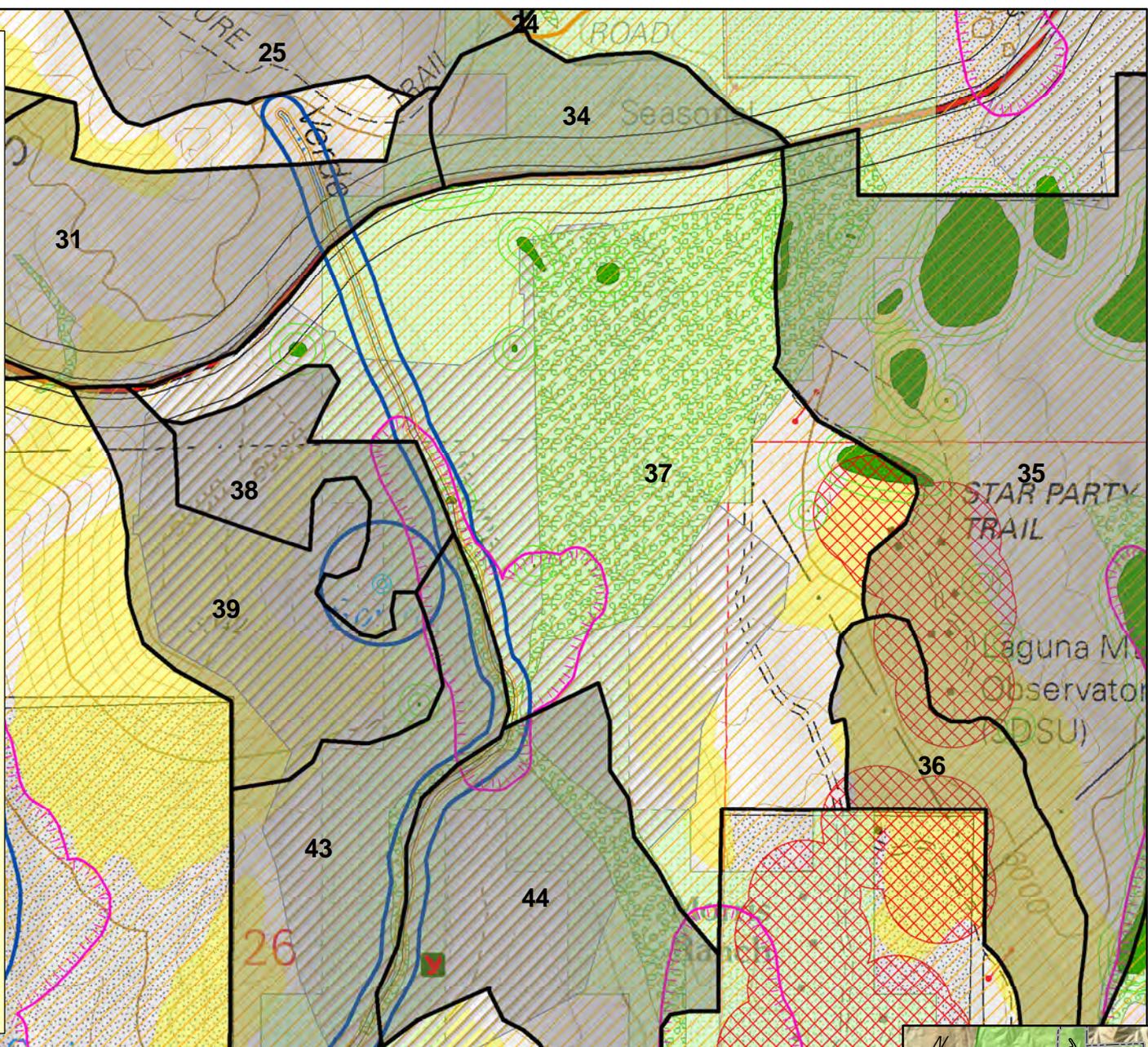
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

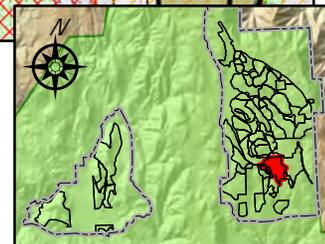
Other Features

- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest

UNIT 37
 177 ACRES



Mt. Laguna Unit 37 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 177 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 6 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 171 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag/avoid sensitive plant species (Mt Laguna aster, * San Bernardino aster) from hand/mechanical treatment activities (BOT-2). *See general direction for Mt Laguna area (AMS). Locate personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Recreation and Visual

- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retain all woodrat nests in the WUI threat zone. Retain woodrat nests within WUI defense zones where they do not threaten the fuels integrity (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Select populations of horkelia, the host plant for the Laguna Mts skipper, will be treated in order to monitor the plants response to prescribed fire treatments. Monitoring will occur pre and post treatment to determine the rate and degree of regrowth (treating areas with high and low invasive grass cover).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

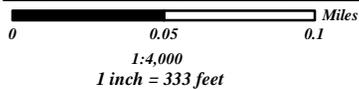
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

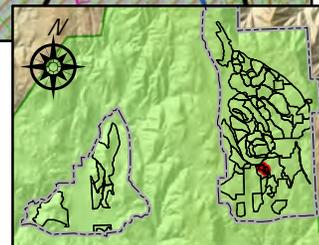
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project**
 Implementation Unit Guide
Descanso Ranger District
 Cleveland National Forest

UNIT 38
 23 ACRES



Mt. Laguna Unit 38 Masticate/Broadcast Burn

Treatment Area Entire unit - 23 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent/discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).

Hydrology and Soils

- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gulying (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps, wetlands (meadows) edges (HYD-9).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retail all woodrat nests in the WUI threat zone (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

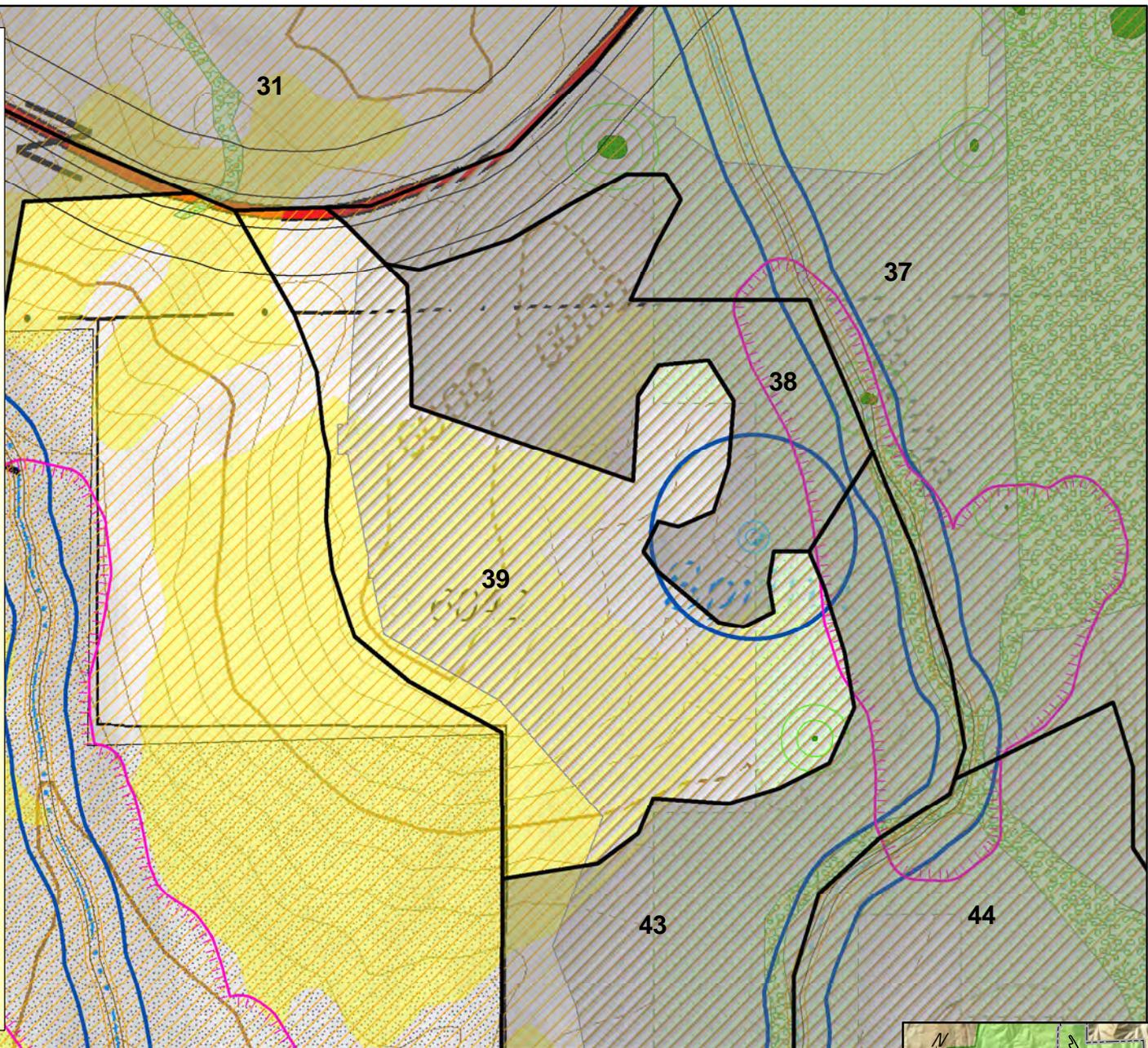
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

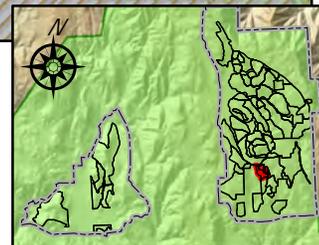
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 39
 42 ACRES



Mt. Laguna Unit 39 Masticate/Broadcast Burn

Treatment Area Entire unit - 42 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).

Hydrology and Soils

- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps, wetlands (meadows) edges (HYD-9).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retail all woodrat nests in the WUI threat zone (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

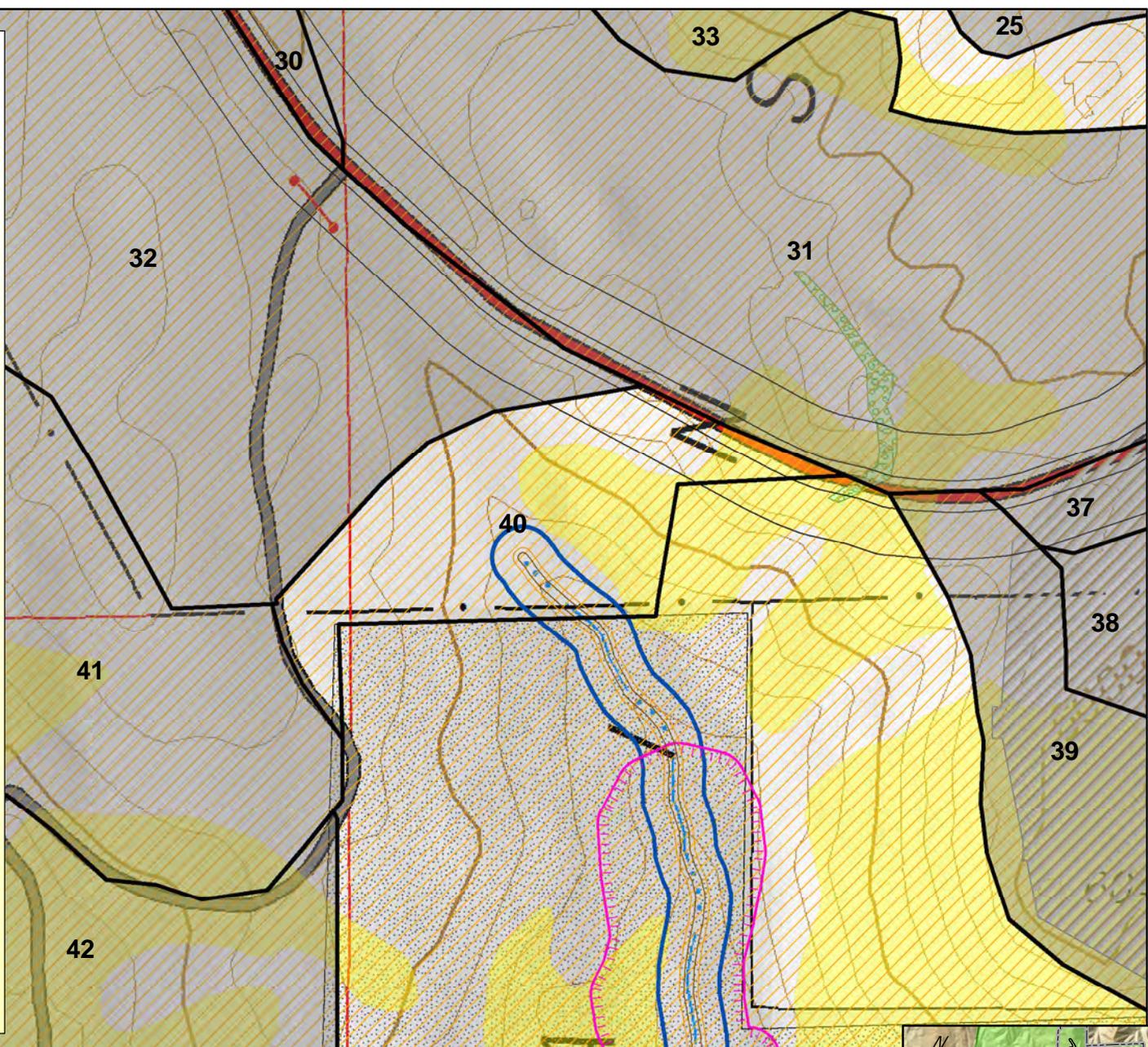
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

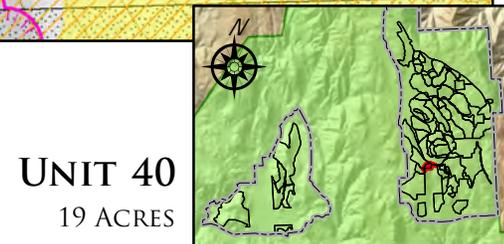
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 40
 19 ACRES



Mt. Laguna Unit 40 Masticate/Broadcast Burn

Treatment Area Entire unit - 19 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Hydrology and Soils

- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

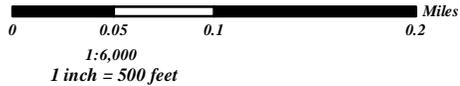
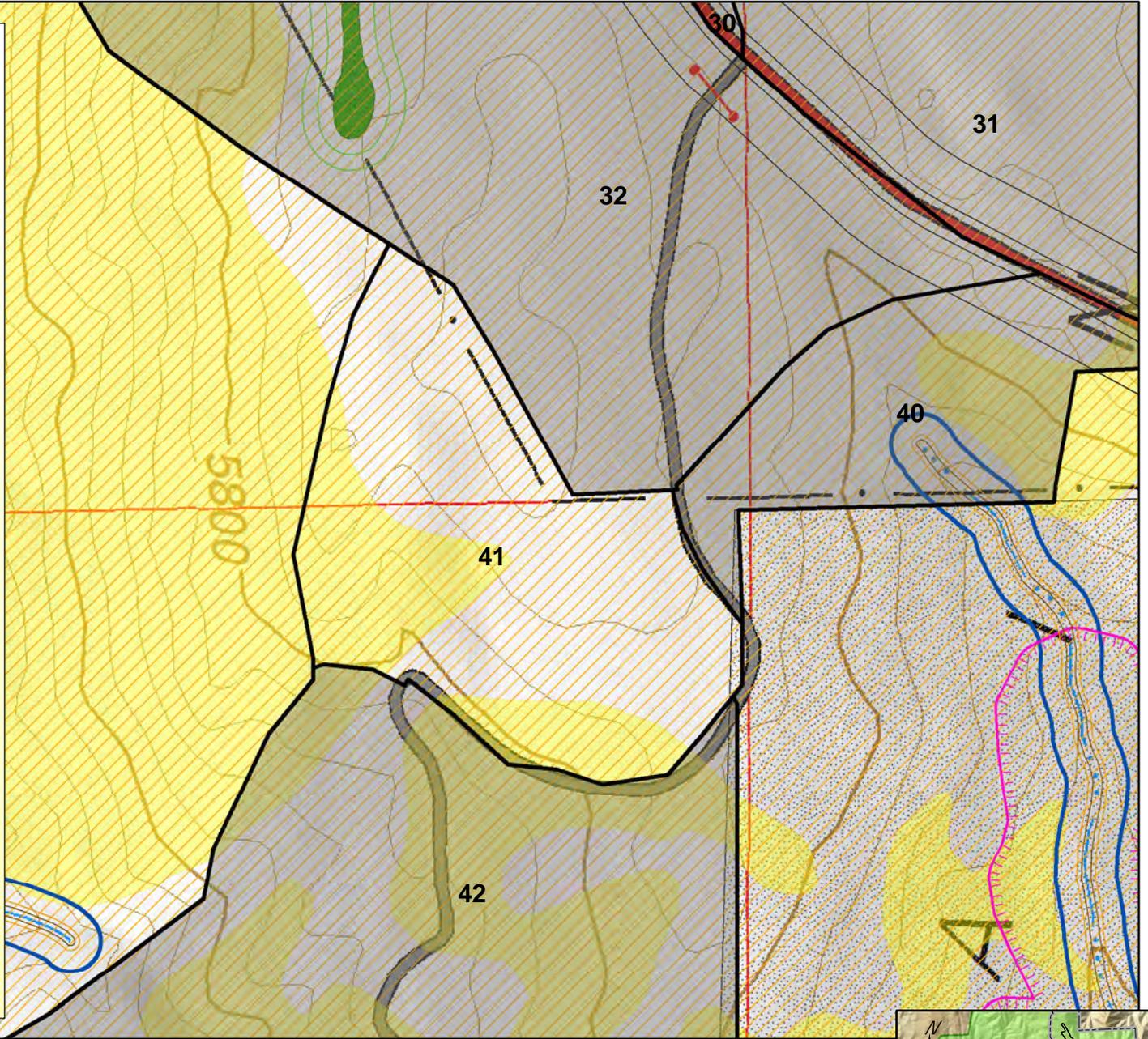
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

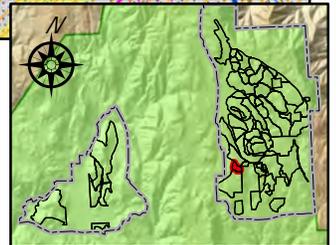
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project**
 Implementation Unit Guide
Descanso Ranger District
 Cleveland National Forest



UNIT 41
 33 ACRES



Mt. Laguna Unit 41 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 47 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

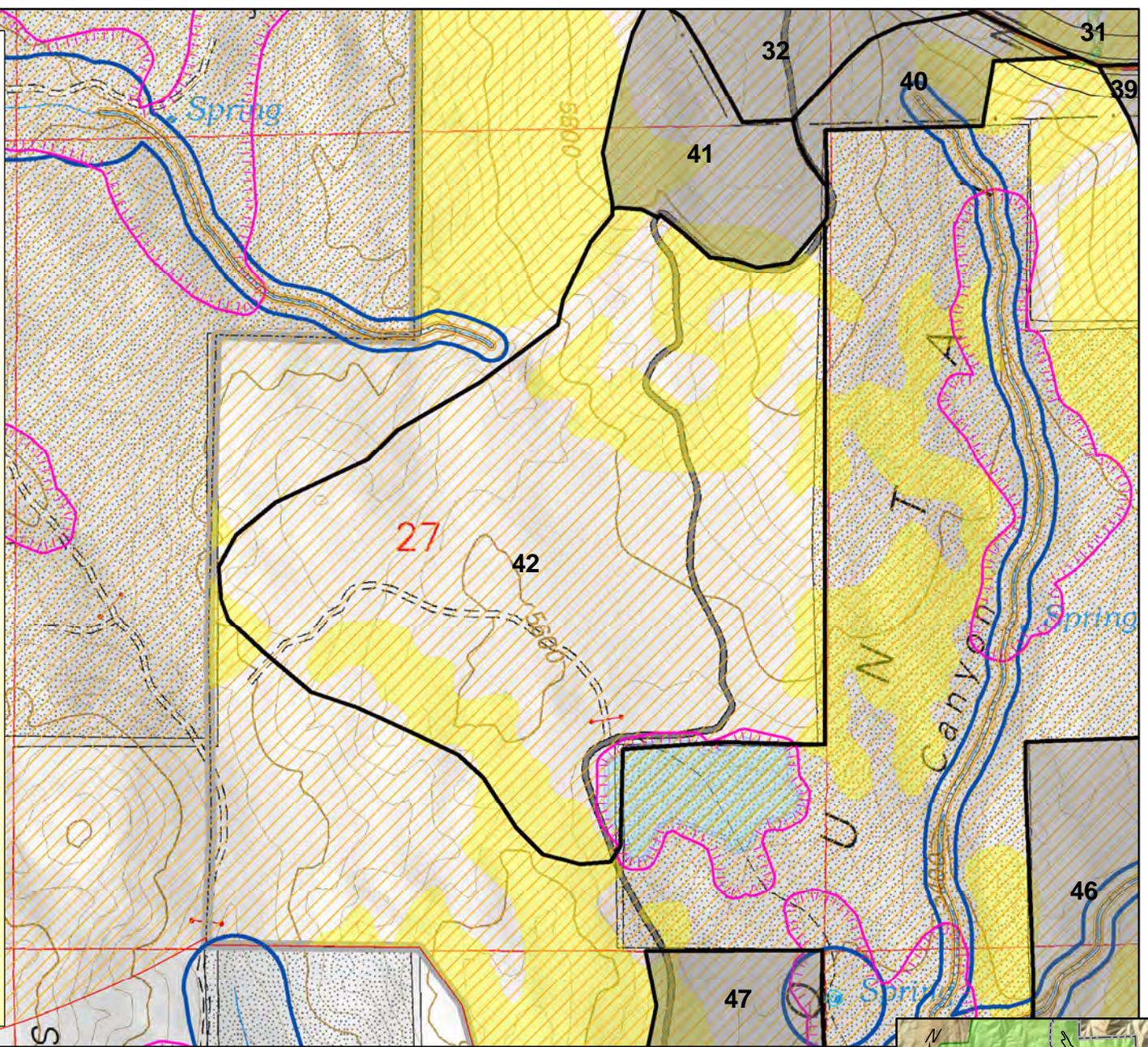
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

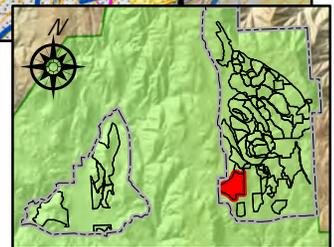
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:12,000
 1 inch = 1,000 feet

Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 42
 229 ACRES



Mt. Laguna Unit 42 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 231 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- A narrow zone of brush will be untreated along the southwest edge of the unit or a temporary fence installed to prevent grazing beyond the allotment boundary (HYD-10).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

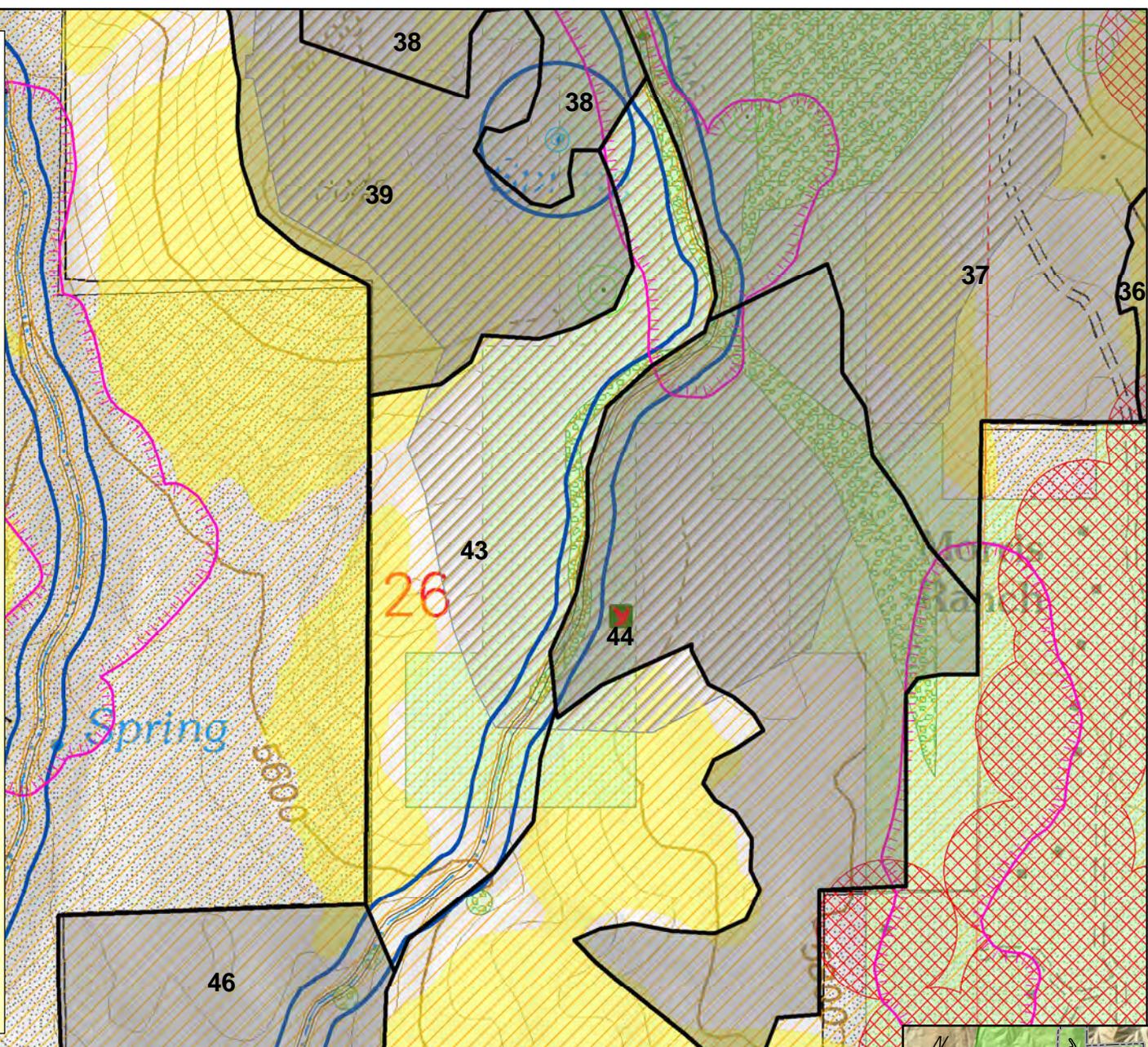
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

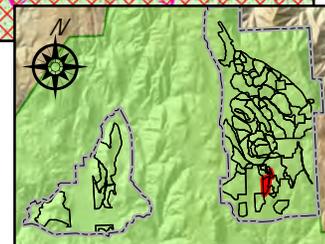
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:8,000
 1 inch = 667 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 43
 55 ACRES



Mt. Laguna Unit 43 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 55 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Manually or mechanically treat bull thistle population (e.g., hand pulling, pulling using tools) or flag and avoid prior to treatment (WEED-2).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Botany

- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps, wetlands (meadows) edges (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).
- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).

Wildlife

- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retail all woodrat nests in the WUI threat zone (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- *Horkelia* (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

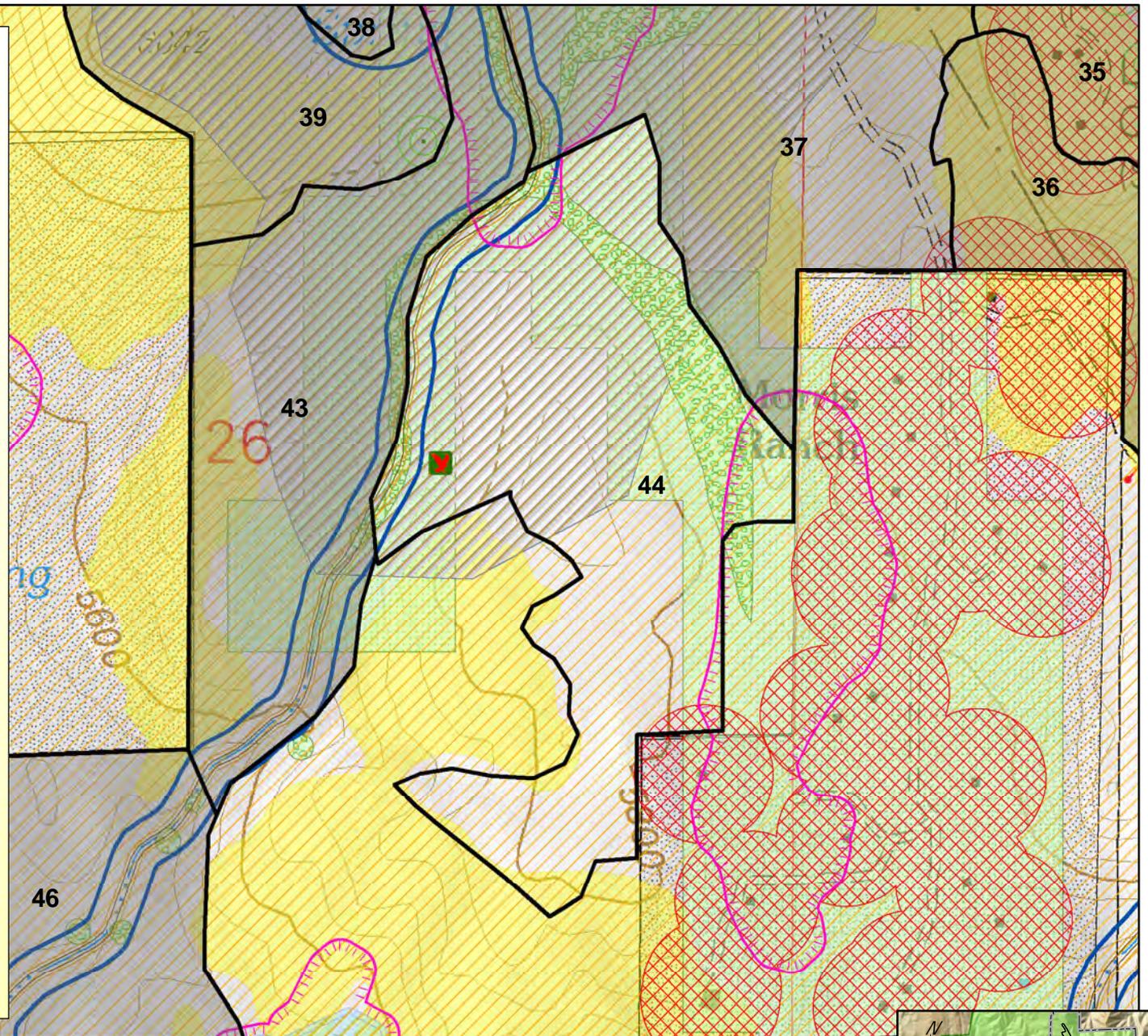
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

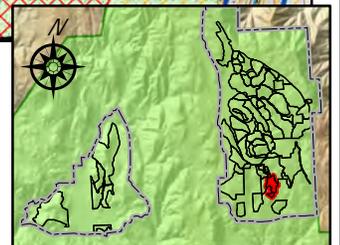
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 44
 73 ACRES



0 0.05 0.1 0.2 Miles
 1:8,000
 1 inch = 667 feet



Mt. Laguna Unit 44 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 73 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 1 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 72 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gulying (HYD-8).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- No equipment within 15' of streams edge (HYD-9).
- After prescribed burning, no grazing will be allowed in the unit for 1-2 years unless botanist, rangeland, or watershed specialist monitoring indicates vegetation regrowth or barriers will limit effects from grazing. Temporary fencing may be used (HYD-10).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- Protect known active or inactive raptor nest areas from project activities. A no disturbance buffer around active nests will be required from nest-site selection to fledgling (WLD-6).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retain all woodrat nests in the WUI threat zone. Retain woodrat nests within WUI defense zones where they do not threaten the fuels integrity (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

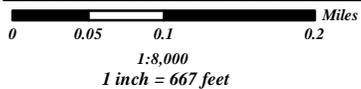
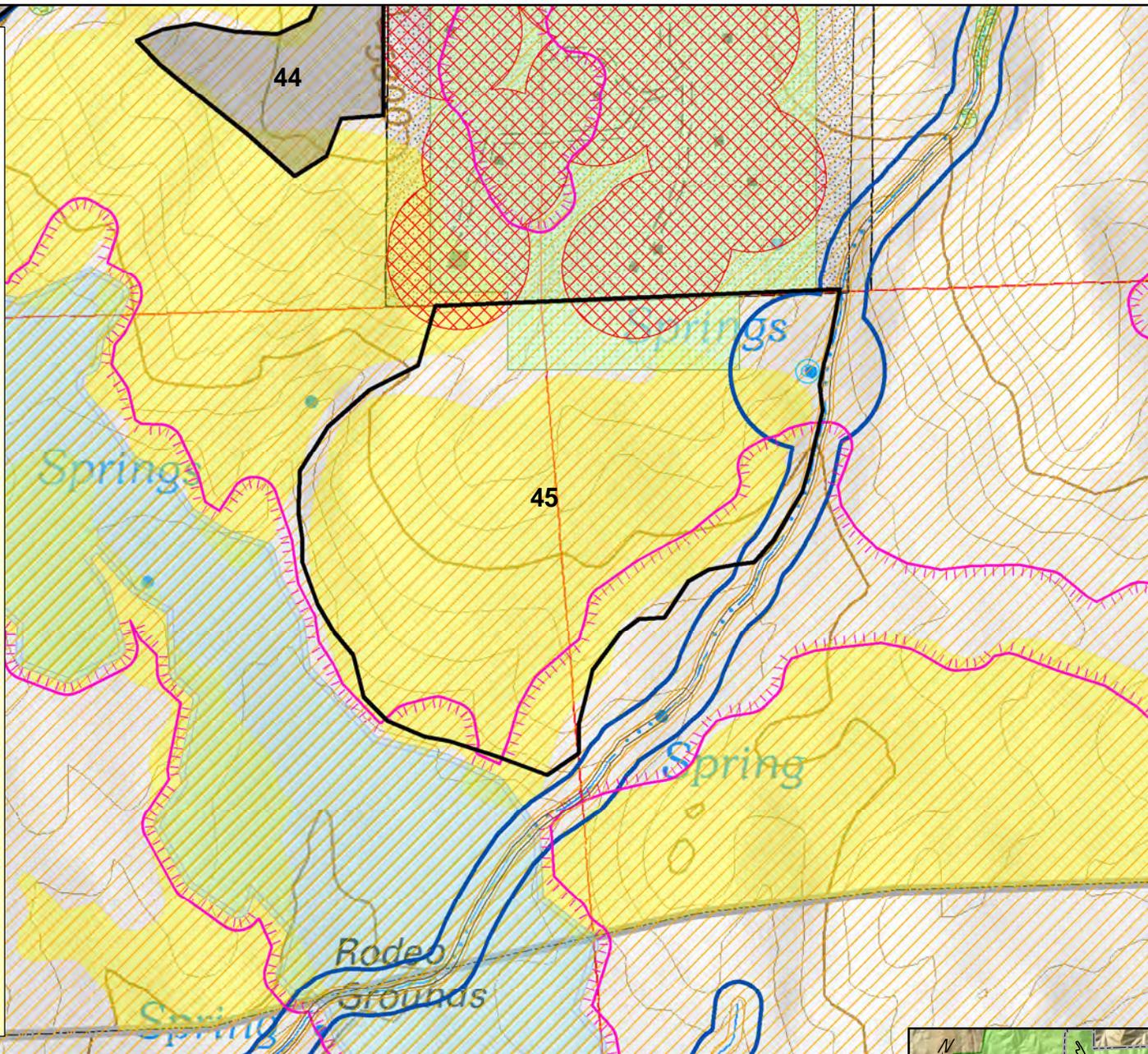
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

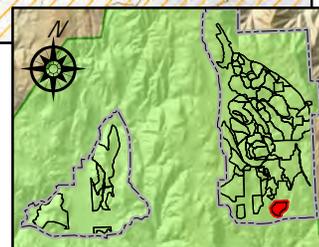
Other Features

- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 45
 72 ACRES



Mt. Laguna Unit 45 Masticate/Broadcast Burn

Treatment Area Entire unit - 72 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area WUI defense - 2 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area WUI threat - 70 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If budgets allow survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Manually or mechanically treat Indian thistle population (e.g., hand pulling, pulling using tools) or flag and avoid prior to treatment (WEED-2).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Botany

- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps, wetlands (meadows) edges (HYD-9).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

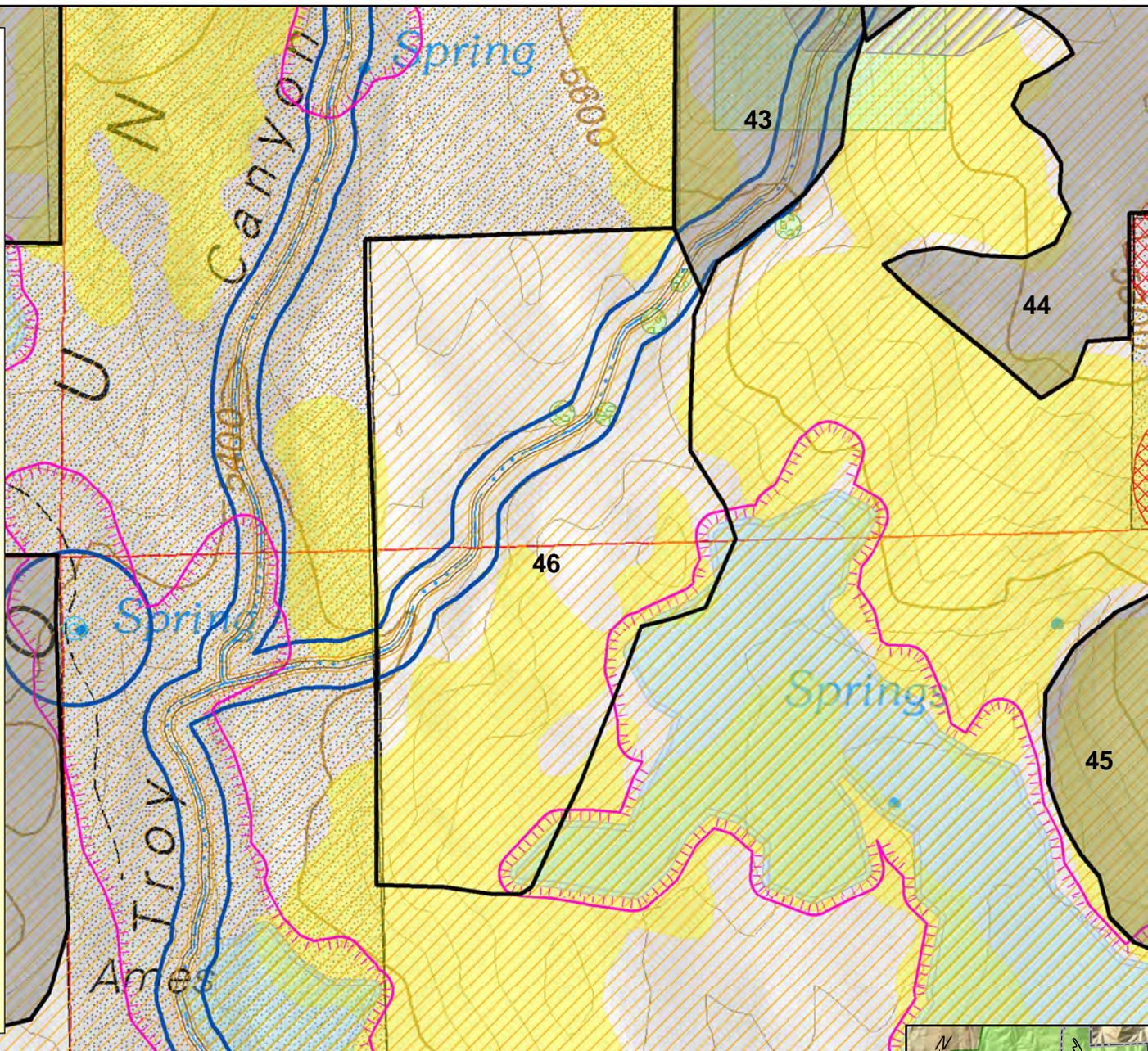
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

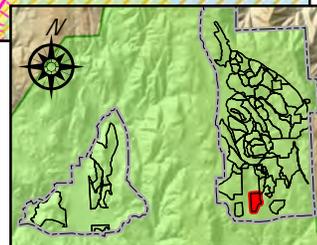
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 46
 77 ACRES



Mt. Laguna Unit 46 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 77 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If budgets allow survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Botany

- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 15' of streams edge (HYD-9).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9). No slash piles within 30' from the edge of stream channels, lakes and ponds (HYD-5).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

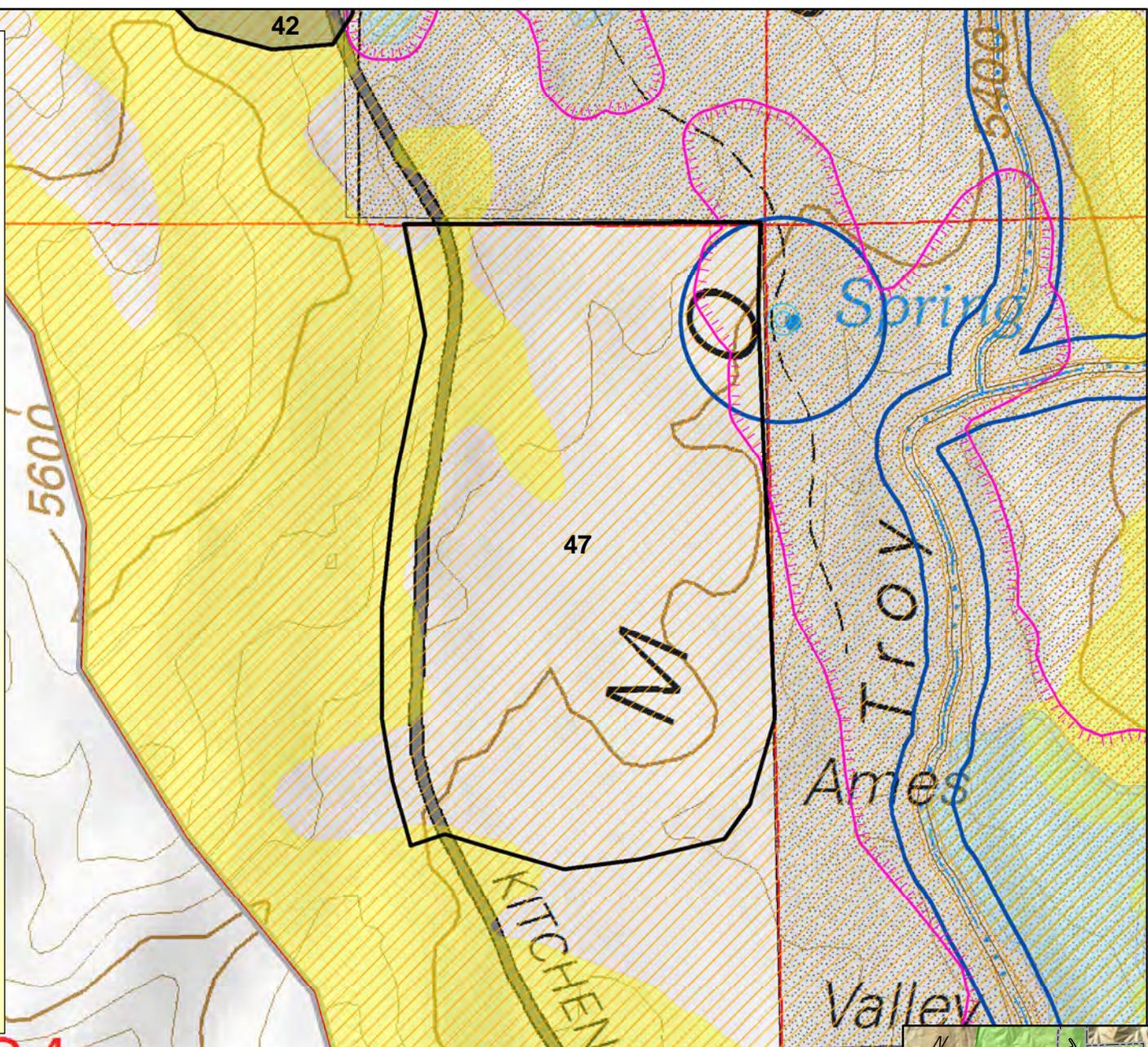
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

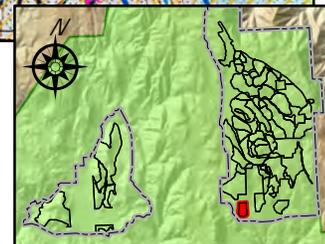
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 47
 54 ACRES



Mt. Laguna Unit 47 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 54 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs. Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- If budgets allow survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Botany

- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps, wetlands (meadows) edges (HYD-9).
- No mechanical treatment can occur within 50' of riparian vegetation (WLD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Tree stumps generated from this project will be a maximum of 6" high (VIS-2).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

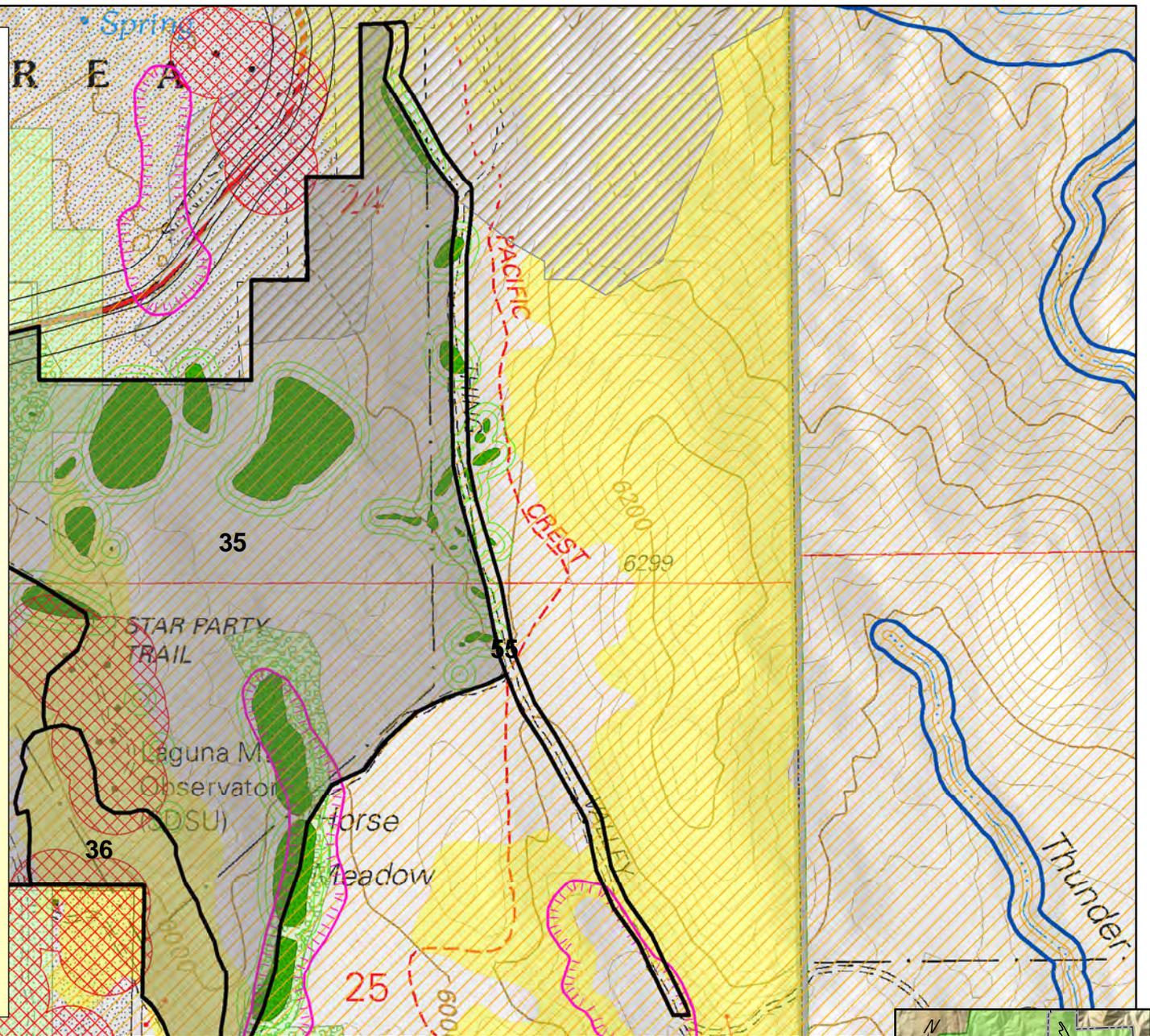
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

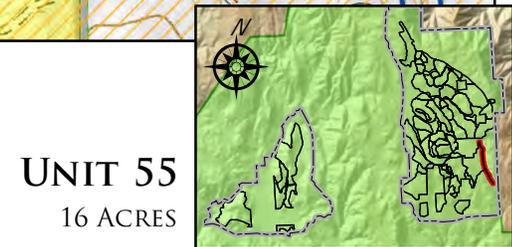
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.125 0.25 Miles
 1:12,000
 1 inch = 1,000 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 55
 16 ACRES



Mt. Laguna Unit 55 Masticate/Broadcast Burn

Treatment Area Entire unit - 16 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned will be less than 14" dbh. Tree spacing will be irregular to provide a natural appearance.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Mt Laguna aster*) from mechanical treatment activities(BOT-2). *See general direction for Mt Laguna area (AMS).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall) (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retain all woodrat nests in the WUI threat zone (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

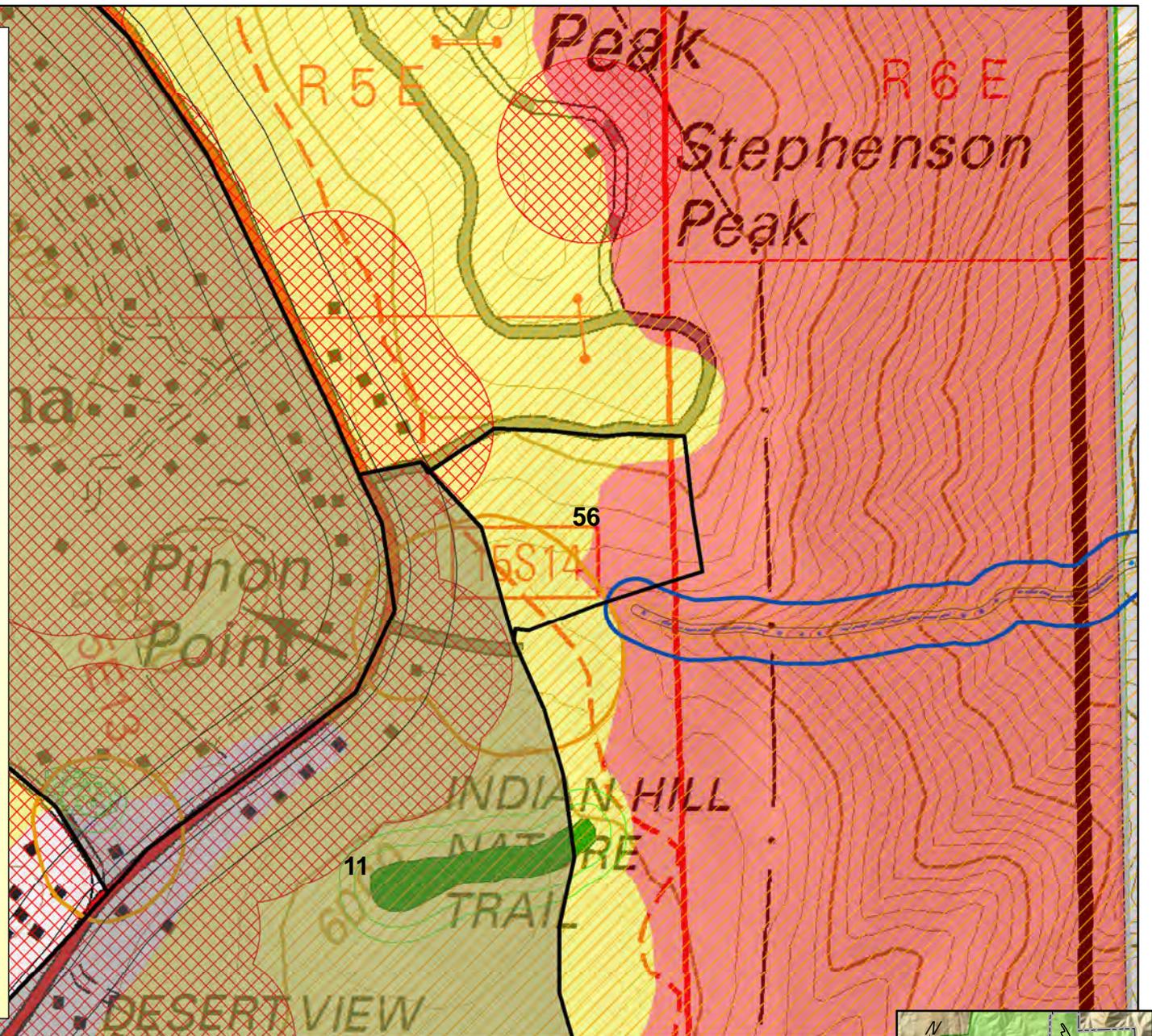
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

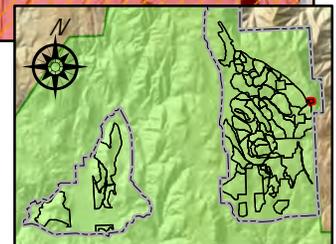
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 56
 9 ACRES



Mt. Laguna Unit 56 Broadcast Burn

Treatment Area Entire unit - 9 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Manually or mechanically treat prickly Russian thistle population (e.g., hand pulling, pulling using tools) or flag and avoid prior to treatment (WEED-2).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

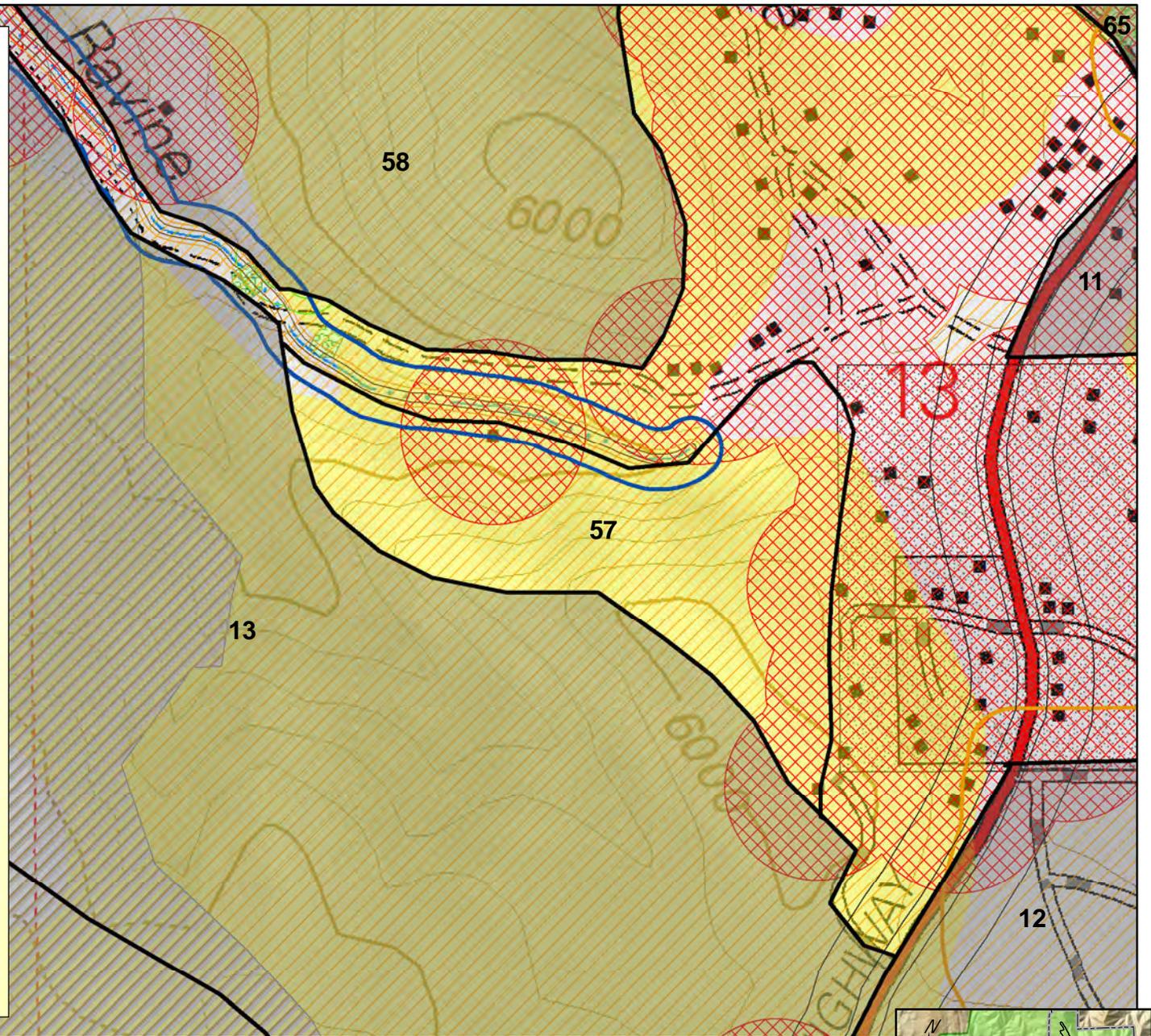
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

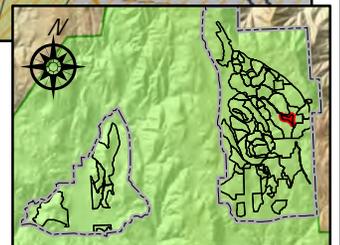
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 57
 27 ACRES



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet



Mt. Laguna Unit 57 Broadcast Burn

Treatment Area Entire unit - 27 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9)
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

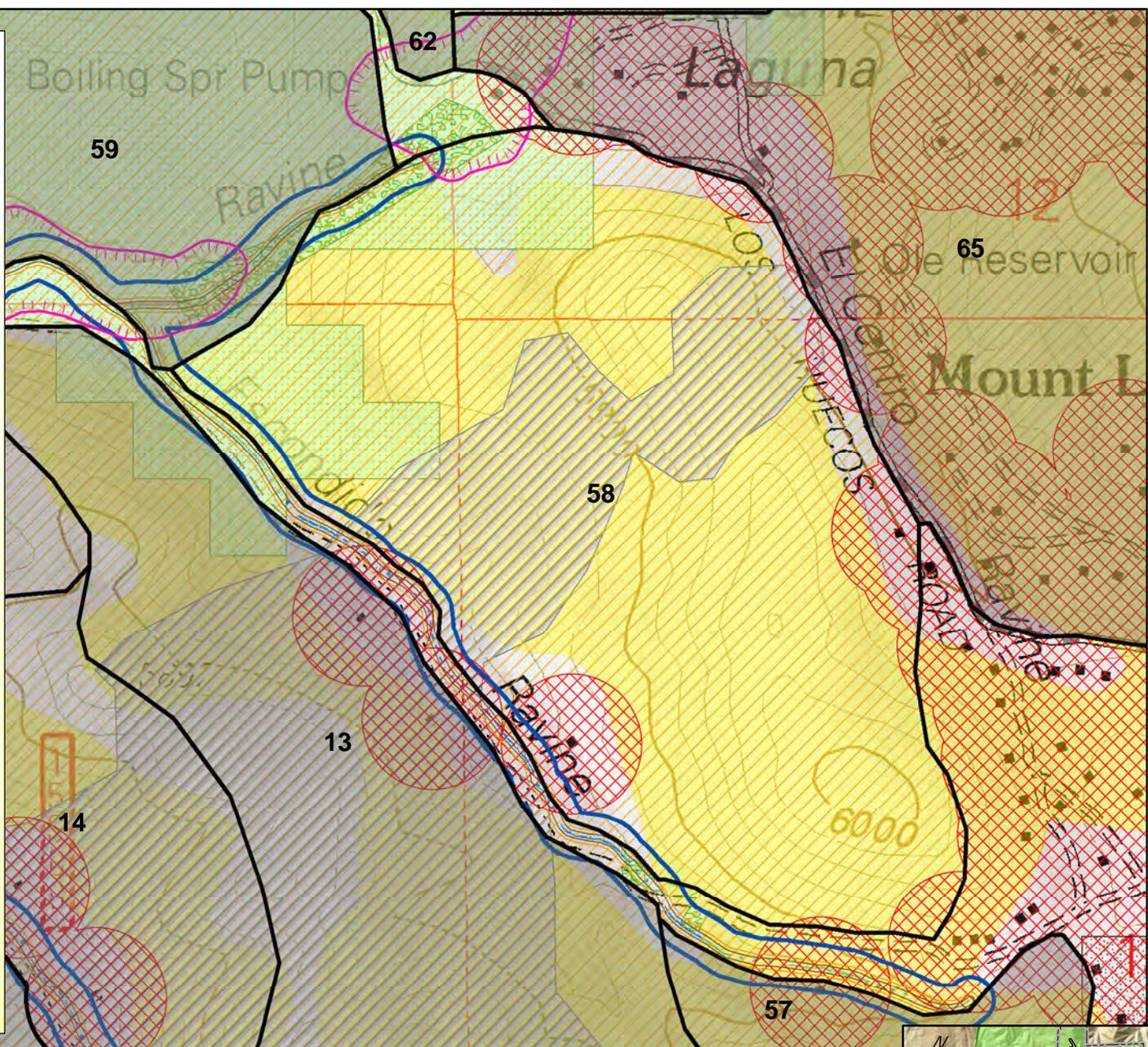
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

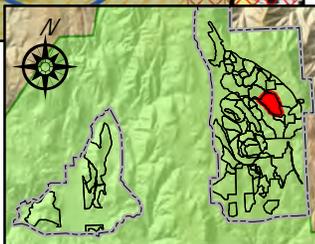
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:8,000
 1 inch = 667 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 58
 157 ACRES



Mt. Laguna Unit 58 Broadcast Burn

Treatment Area Entire unit - 157 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).

Wildlife

- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

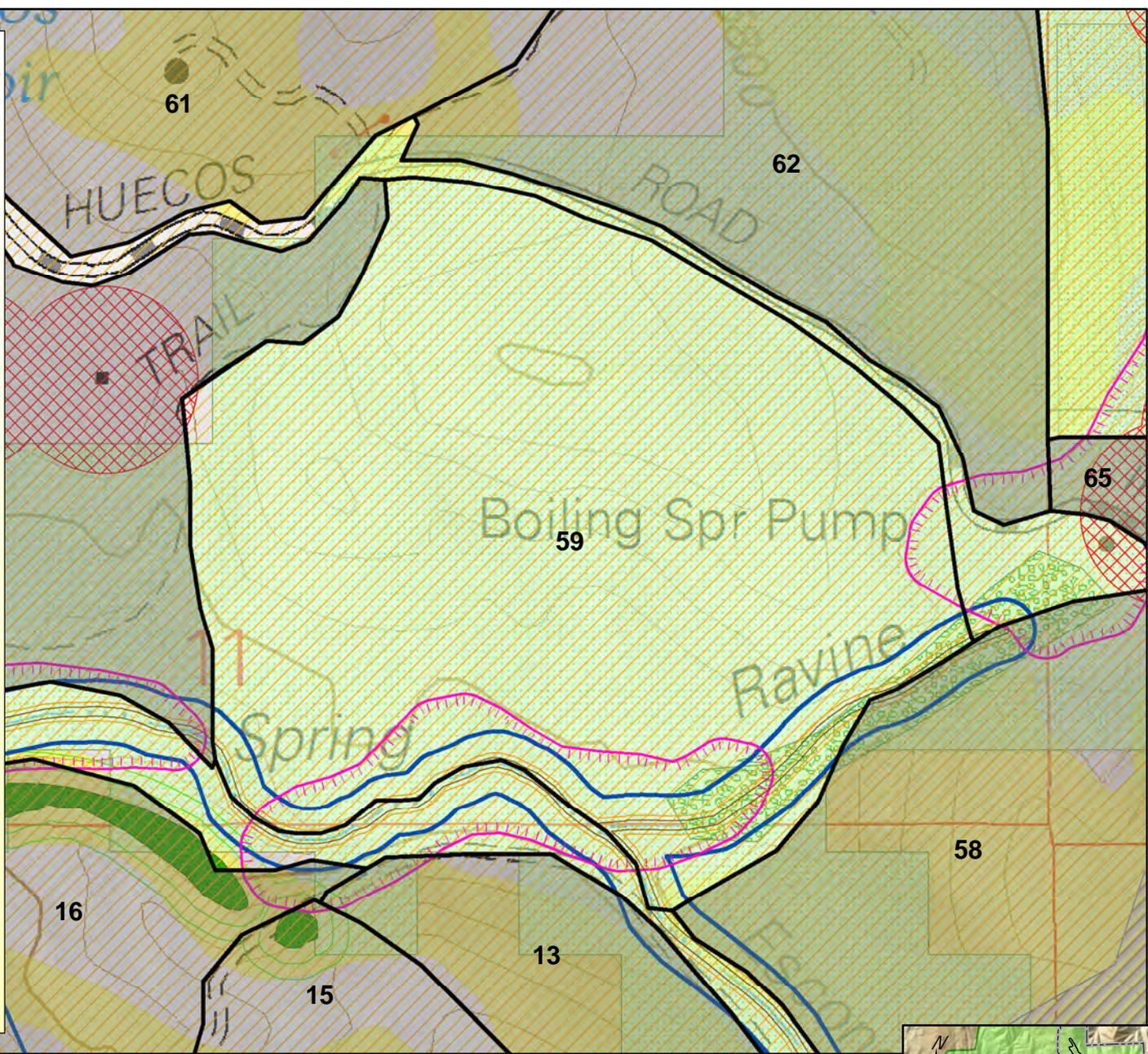
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

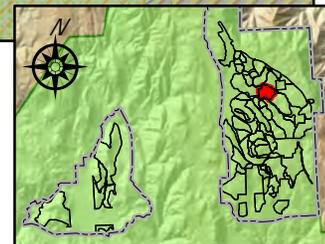
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 59
 92 ACRES



Mt. Laguna Unit 59 Broadcast Burn

Treatment Area Entire unit - 92 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day. Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).

Wildlife

- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

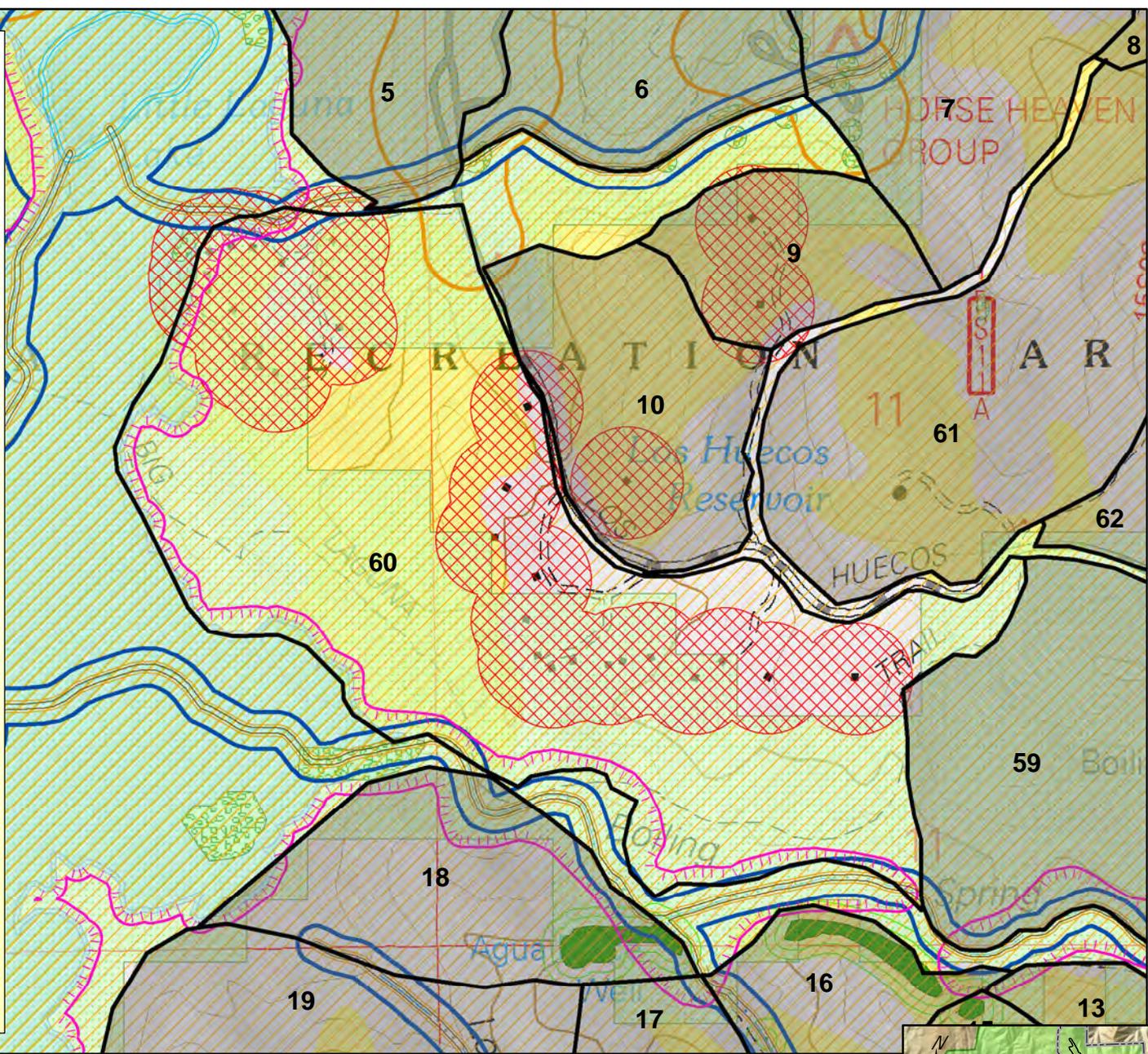
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

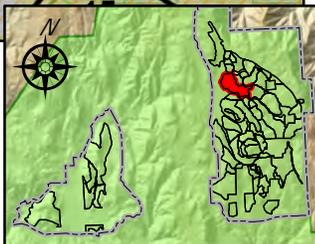
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 60
 188 ACRES



Mt. Laguna Unit 60 Broadcast Burn

Treatment Area Entire unit - 188 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- No direct ignition will be allowed within 30' of streams bank-full edge unless 70% effective soil cover can be maintained. Low intensity fire may be allowed to back into these areas. No firelines will be constructed in RCAs (HYD-4).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- No equipment within 25' and no ignition of prescribed burning within 50' of: springs, lakes, ponds, seeps edges (HYD-9).
- All snags and logs will be retained in RCAs unless they are a threat to live/property. No cutting of riparian vegetation. Retain or re-establish 60-70% of the ground cover. No treatments will be allowed in stream inner gorges (WLD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).

Wildlife

- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- *Horkelia* (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

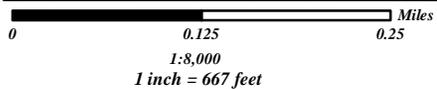
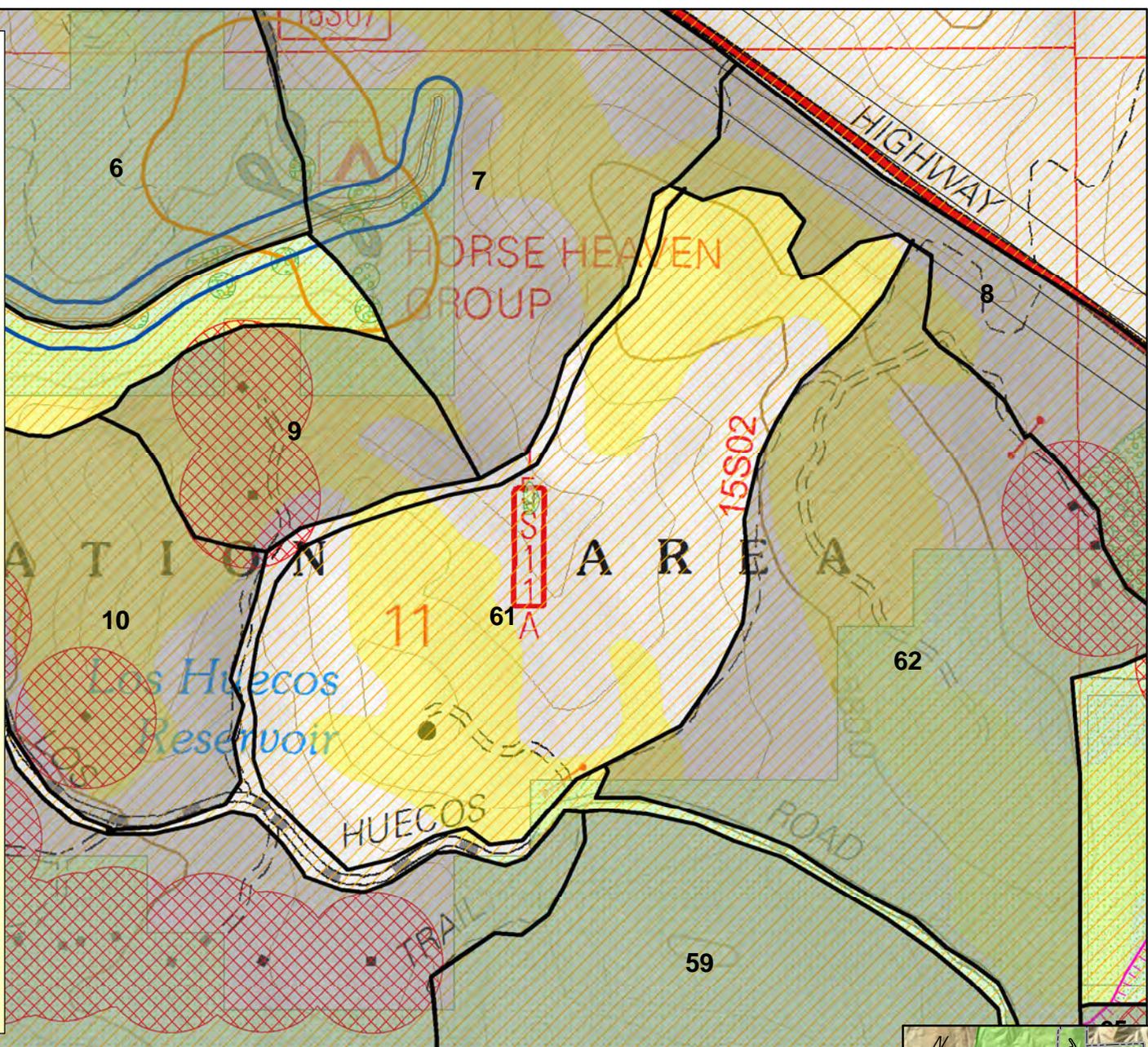
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

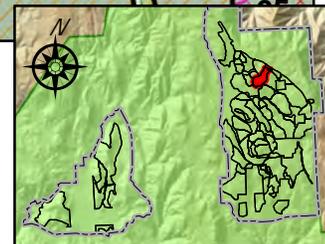
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
Implementation Unit Guide
Descanso Ranger District
Cleveland National Forest

UNIT 61
86 ACRES



Mt. Laguna Unit 61 Broadcast Burn

Treatment Area Entire unit - 86 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

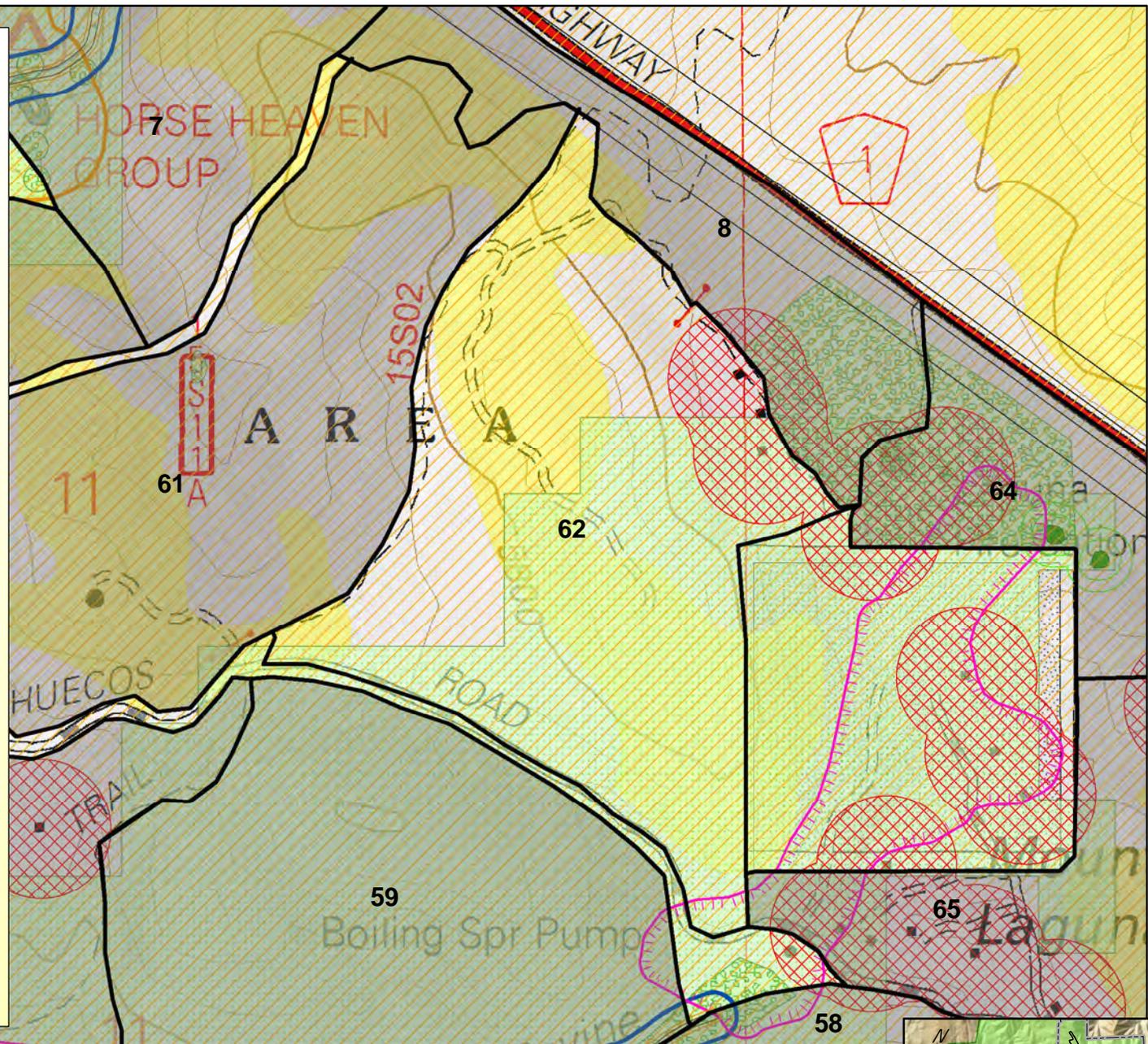
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

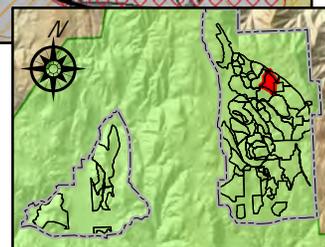
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 62
 88 ACRES



Mt. Laguna Unit 62 Broadcast Burn

Treatment Area Entire unit - 88 Acres

- Broadcast Burn: This is a maintenance prescribed fire. Burn prescription should be low to moderate to reduce concentrations of natural surface fuels. This treatment should occur towards the end of the implementation period.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Horkelia (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

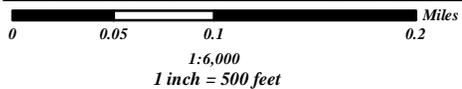
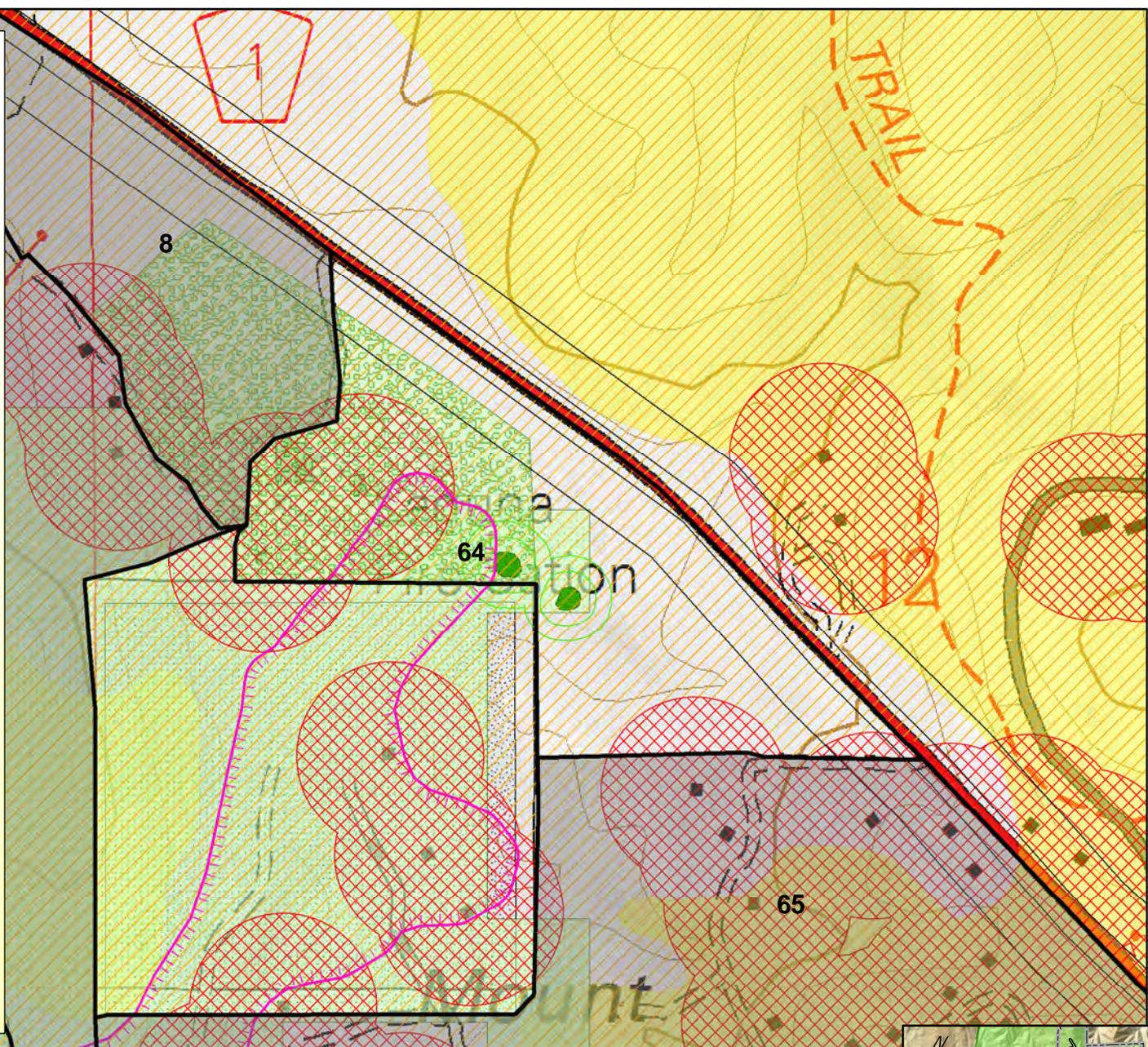
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

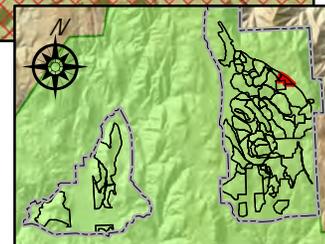
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide**
Descanso Ranger District
Cleveland National Forest

UNIT 64
 33 ACRES



Mt. Laguna Unit 64 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 33 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 10 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 23 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Orcutt's linanthus, San Bernardino aster) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 30% soil cover should be retained on all soils that do not have severe or very severe erosion hazard ratings. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WLD-5)
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).

Wildlife

- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- Select populations of horkelia, the host plant for the Laguna Mts skipper, will be treated in order to monitor the plants response to prescribed fire treatments. Monitoring will occur pre and post treatment to determine the rate and degree of regrowth (treating areas with high and low invasive grass cover).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

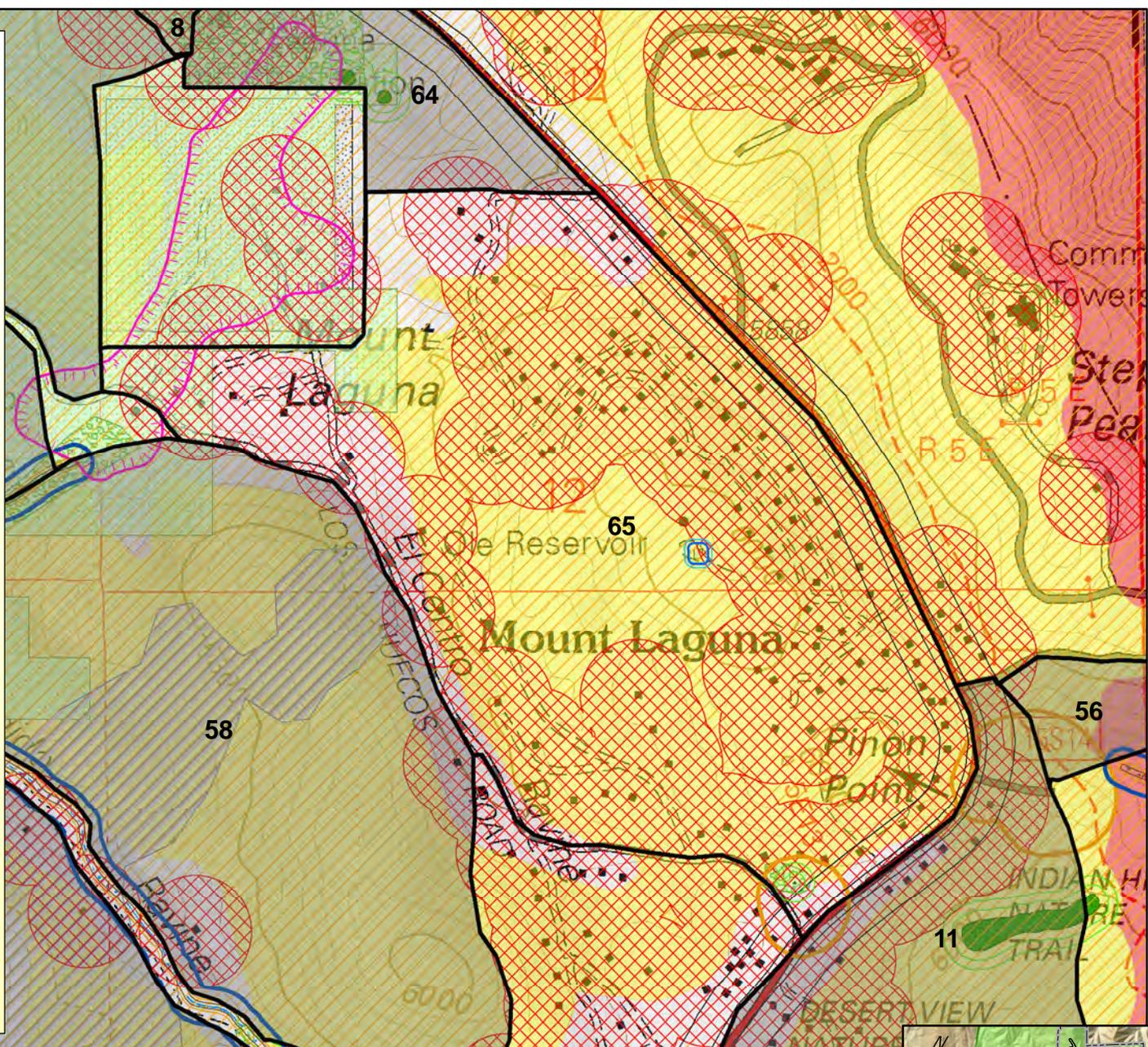
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

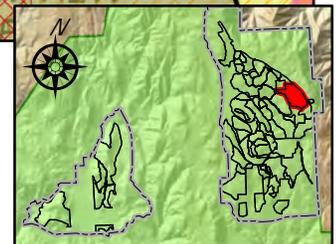
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:10,000
 1 inch = 833 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 65
 212 ACRES



Mt. Laguna Unit 65 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 212 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Hand Thin: Sporax all recently cut conifer stumps within 4 hours after cutting; prune conifer trees to 6' or up to half the crown height for smaller sized trees. No tree greater than 24" dbh will be cut unless it's a hazard tree. Hazard trees greater than 24" dbh will be left on site unless it conflicts with fuels management objectives or the downed tree poses a safety hazard to that specific site. Tree spacing will be irregular to provide a natural appearance. Leave-trees will be the largest diameter, largest crown, tallest trees and straightest stem. Cut trees could be piled/burned, chipped (on and off site), masticated, lop and scattered or made available for personal use firewood.
- Pile and Pile Burning: Burn piles are located to minimize scorch to retained vegetation (e.g. no closer than 4' from bole of nearest retained veg and outside of the dripline of retained trees) and piles would generally be no greater than 10'x10'x6'. Fire would be allowed creep through adjacent understory w/in treatment unit but understory fuels would not be directly ignited during pile burning operations.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Where oaks are present, prescribed broadcast/underburning would only occur prior to oak bud break and would not occur when oaks are leafed out. Efforts will be made to protect key areas of young oaks during burning. Burning in masticated conifer stands would occur after September/October to minimize risk of bark beetle attack after treatment. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 170 Acres

- Hand Thin: Thin stands to a basal area of 80-100 ft²/ac (e.g. 16" dbh trees would have bole spacing about 25'x25') with no more than 40% canopy closure
- Mastication Chipping: Chaparral within WUI defense zones would be maintained to a maximum of 18" height 100-300' from buildings. Annual treatment could occur w/in 100' of structures to maintain state requirements. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire.

Treatment Area Only in WUI threat - 42 Acres

- Hand Thin: Remove suppressed and intermediate sized conifer trees to remove ladder fuels. Generally, size of trees thinned would be less than 14" dbh.
- Mastication Chipping: Only masticate shrub spp within 100' around the conifer edges and within 10' of the drip line of retained trees to decrease ladder fuels. Where possible, leave islands of obligate reseeding shrub spp (e.g., bigberry manzanita). If regrowth of resprouting and reseeding shrub (i.e., whitethorn, Palmer's ceanothus) return to a height that will not allow follow up prescribed fire, another mastication treatment may be necessary.

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (San Bernardino aster, velvety false lupine) from hand and mechanical treatment activities (BOT-2). Locate potential personal use firewood at least 100' from sensitive plants (BOT-5).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Hydrology and Soils

- When feasible, plan all burning when soils are wetter and fuels are dry. If depth of masticated fuels exceeds 3" across more than 25% of the burn area, adequate soil moisture (HYD-2) should exist in the upper 6" of the soil profile (HYD-2).
- A minimum of 60% soil cover should be retained on soils with severe to very severe erosion hazard ratings. A minimum of 30% cover should be retained on all other soils. Large woody debris should be included as part of the soil cover (HYD-3).
- Burn piles containing greater than 8" diameter material will not cover more than 15% of the pile burn units (HYD-6).
- Waterbars will be installed on hand firelines greater than 5% grade at the spacing specified: 6-16% grade – 150' spacing; 16-25% grade – 100' spacing; 26-65% grade – 50' spacing; over 65% grade – 25' spacing (HYD-7).
- A watershed specialist will determine the capacity of the soil to support heavy equipment to prevent compaction, rutting and gullyng (HYD-8).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Retain vegetation for screening between recreation site units. Chipping is the preferred treatment method in the recreation sites. No broadcast burning allowed within 150' of designated boundary (REC-4).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Tree stumps generated from this project will be a maximum of 6" high. Stumps visible from Sunrise Highway should be flush cut with the cut slated away from the highway (VIS-2).
- Chip, masticate, or remove all slash within 200' of Sunrise Highway (VIS-4).

Wildlife

- Retain at least 6 logs/acre (min 12" diameter & 120' long) and 10-15 snags/5 acres (16" dbh & 40' tall) where available and does not conflict w/ safety and/or fuels objectives (WLD-1)
- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)

Wildlife

- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Maintain a limited operating period prohibiting project activities 0.25 miles from spotted owl nest, or PAC where nest is unknown, from Feb 1 through Aug 15 unless surveys confirm no owls are nesting (WLD-10).
- In PACs and HRCs: retain largest trees, including all live trees greater than 24" dbh, unless they are at unnaturally high densities (exceptions are allowed for operability (WLD-11)).
- In PACs and HRCs, retain at least 9 logs/acre of the largest logs available, except where fuels objectives will not be met in WUI defense zones (WLD-12).
- In PACs and HRCs, retain 4-8 of the largest snags available/acre (greater than 15" dbh and 20' tall), except where fuels objectives will not be met in WUI defense zones (WLD -13).
- In PACs and HRCs, and In mechanical treatment areas, retain all woodrat nests in the WUI threat zone. Retain woodrat nests within WUI defense zones where they do not threaten the fuels integrity (WLD-14).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).
- *Horkelia* (plant) populations will be flagged and avoided during all treatment activities (WLD-16).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

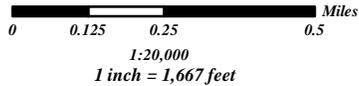
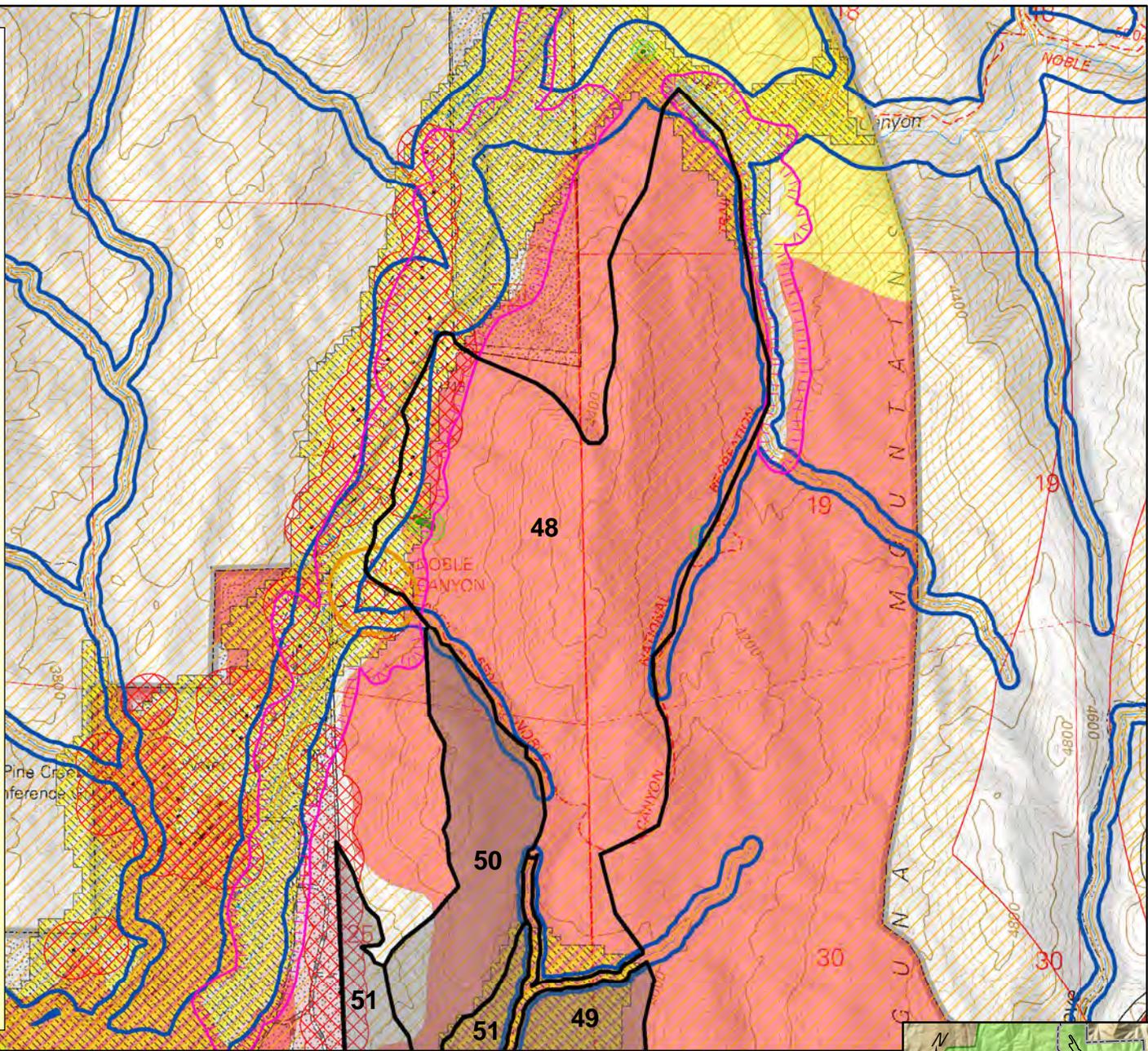
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

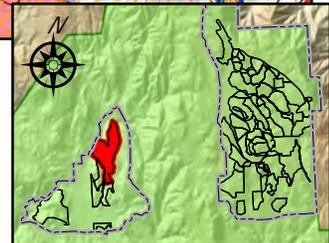
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project Implementation Unit Guide
Descanso Ranger District
Cleveland National Forest

UNIT 48
 413 ACRES



Pine Valley Unit 48 Masticate/Thin/Pile Burn/Broadcast Burn

Treatment Area Entire unit - 413 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 21 Acres

- Hand Thin: Annual treatment could occur in those areas on forest lands within 100' of structures to allow compliance w/ state regs
- Mastication Chipping: Initially treat chaparral vegetation down to several inches above ground. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire during a wildfire. Retreat to retain a maximum 18" height of shrub species.

Treatment Area Only in WUI threat - 392 Acres

- Mastication Chipping: 50 to 70 percent of the vegetation would be treated with untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would be of differing plant species to maintain plant species diversity

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- 100' buffer around meadows to flag and avoid the following: NO masticating, igniting prescribed fires, fireline construction, staging, or vehicle access. Botanist/biologist will flag buffer prior to implementation (BOT-1).
- Flag and avoid sensitive plant species (Orcutt's linanthus) from hand and mechanical treatment activities (BOT-2). If budgets allow survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to during the low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Recreation and Visual

- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Masticated and burn treatment areas in WUI threat zones will be non-linear with scalloped or feathered edges to provide a more natural appearance (VIS-3).

Wildlife

- In sensitive amphibian areas, vehicles and equipment will be parked or removed from the habitat before sunset (WLD-4).
- Treat piles as soon as possible. Prior to burning piles, disturb piles and pull apart slightly to encourage small animals to move out of piles (WILD-5)
- To minimize impact to arroyo toads, no project activities can occur during breeding season (March through August). In addition, no mechanical equipment will be allowed within the RCAs (WLD-8).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Pine Valley Unit 48 Masticate

Treatment Area Entire unit - 413 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 21 Acres

- Hand Thin: Annual treatment could occur in those areas on forest lands within 100' of structures to allow compliance w/ state regs
- Mastication Chipping: Initially treat chaparral vegetation down to several inches above ground. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire during a wildfire. Retreat to retain a maximum 18" height of shrub species.

Treatment Area Only in WUI threat - 392 Acres

- Mastication Chipping: 50 to 70 percent of the vegetation would be treated with untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would be of differing plant species to maintain plant species diversity

Recreation and Visual

- Scatter burn pile remnants in areas visible from roads, recreation sites, and special use facilities (VIS-1).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

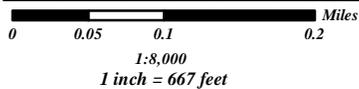
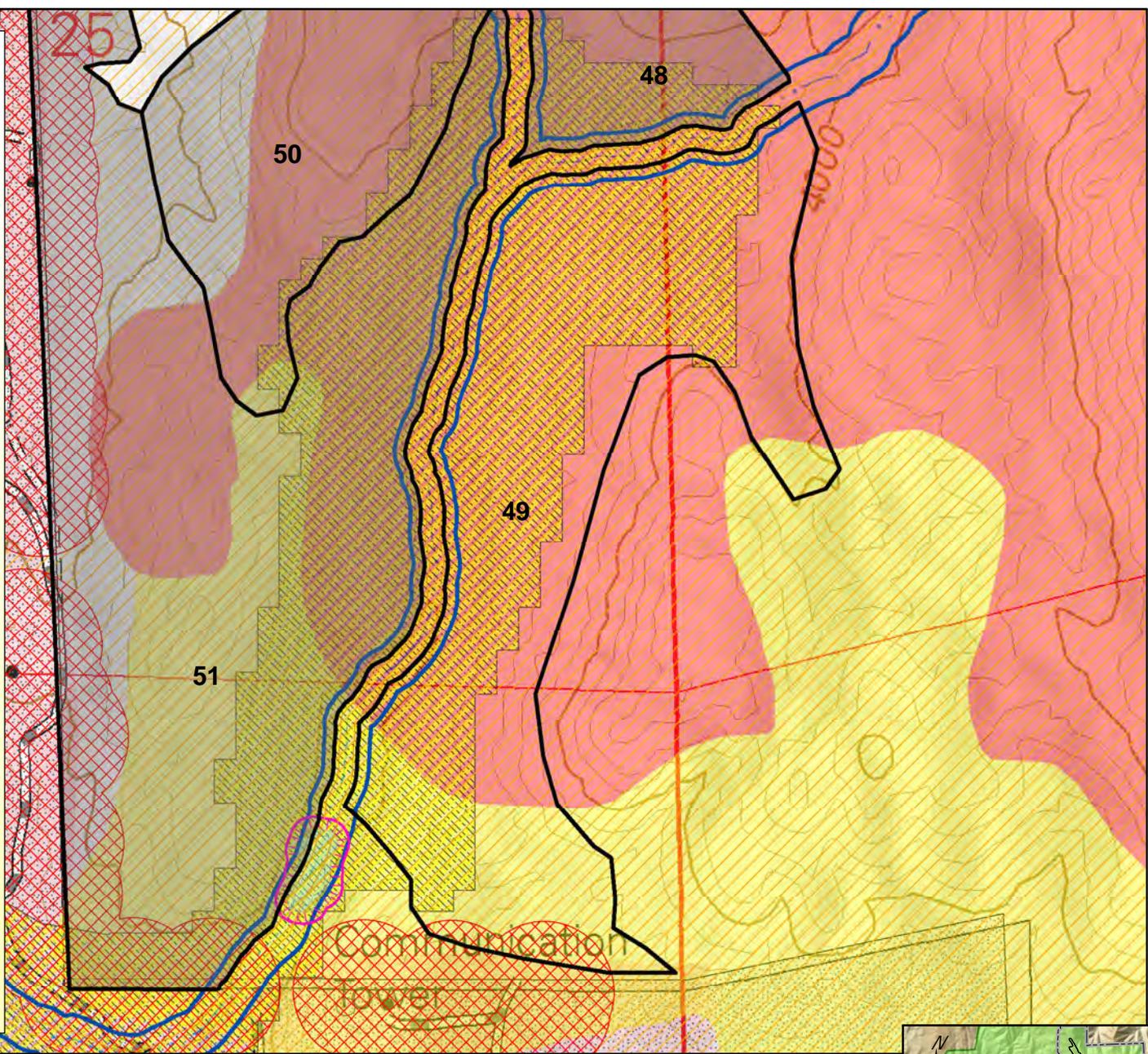
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

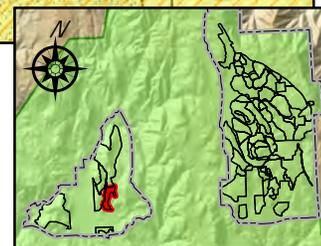
Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense & Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 49
 74 ACRES



Pine Valley Unit 49 Masticate/Broadcast Burn

Treatment Area Entire unit - 74 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 2 Acres

- Mastication Chipping: Initially treat chaparral vegetation down to several inches above ground. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire during a wildfire. Retreat to retain a maximum 18" height of shrub species. Annual treatment could occur in those areas on forest lands within 100' of structures to allow compliance w/ state regs

Treatment Area Only in WUI threat - 72 Acres

- Mastication Chipping: 50 to 70 percent of the vegetation would be treated with untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would be of differing plant species to maintain plant species diversity

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- If budgets allow survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Manually or mechanically treat Tocolote population (e.g., hand pulling, pulling using tools) or flag and avoid prior to treatment (WEED-2).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).

Recreation and Visual

- Masticated and burn treatment areas in WUI threat zones will be non-linear with scalloped or feathered edges to provide a more natural appearance (VIS-3).

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- In sensitive amphibian areas, vehicles and equipment will be parked or removed from the habitat before sunset (WLD-4).
- To minimize impact to arroyo toads, no project activities can occur during breeding season (March through August). In addition, no mechanical equipment will be allowed within the RCAs (WLD-8).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

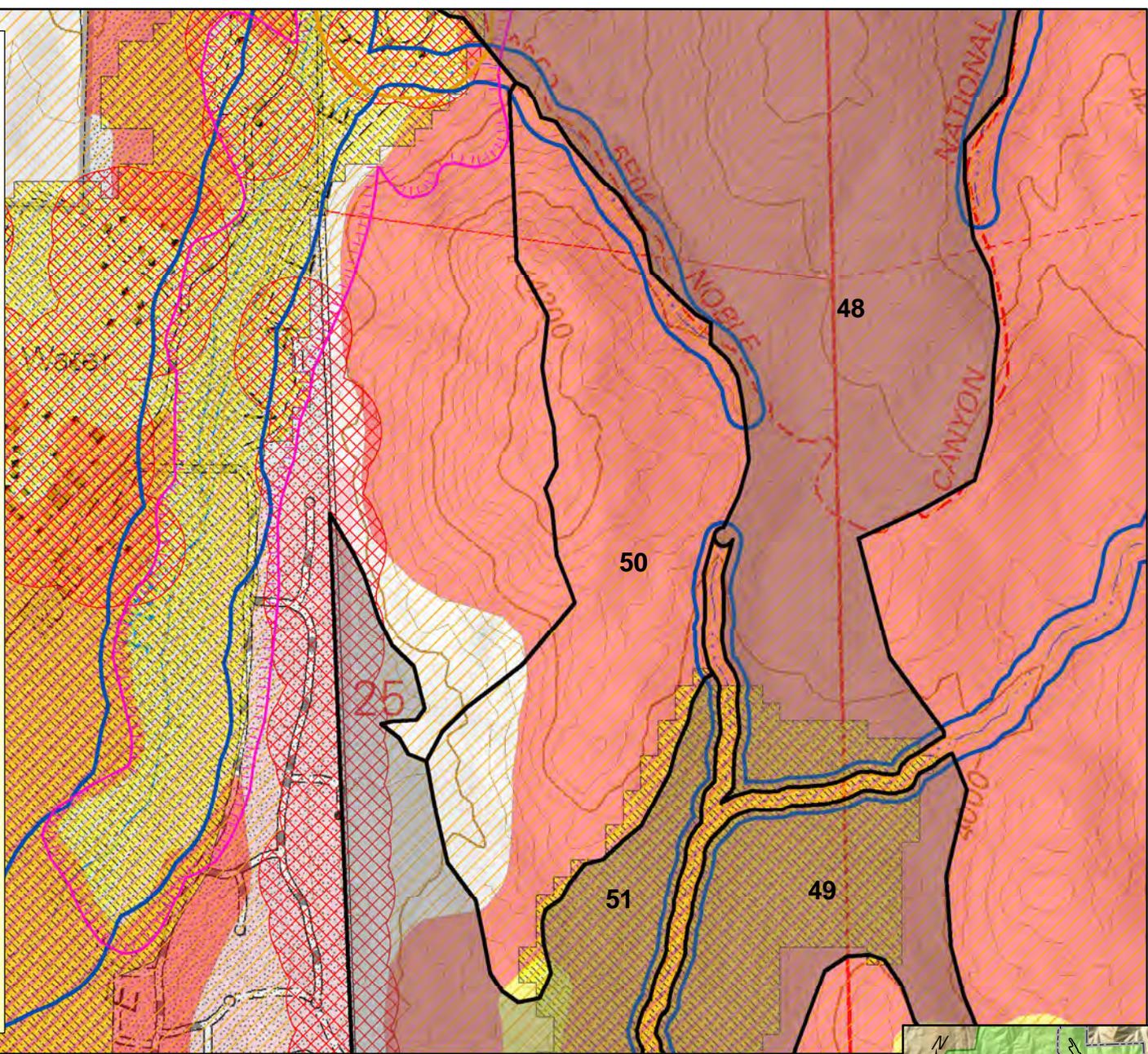
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

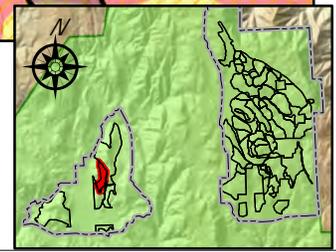
-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:10,000
 1 inch = 833 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 50
 88 ACRES



Pine Valley Unit 50 Broadcast Burn

Treatment Area Entire unit - 88 Acres

- Broadcast Burn: Treat 50-70% of the chaparral vegetation. Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to low use recreation season & after 7 am (REC-1).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Masticated and burn treatment areas in WUI threat zones will be non-linear with scalloped or feathered edges to provide a more natural appearance (VIS-3).

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- To minimize impact to arroyo toads, no project activities can occur during breeding season (March through August) (WLD-8).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

- Streams, 15ft. Buffer (HYD-9)
- Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
- Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
- Wet Meadows - 25 & 50ft Buffer (HYD-9)
- Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
- Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

- TES Plants (Not represented in Burn Units)
- Horkelia Vegetation (WLD-16)
- TES Plants - 50 & 100ft. Buffer (BOT-2)
- Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

- Raptor Nest Sites (WLD-6)
- Laguna Mountains Skipper (WLD-2)
- Arroyo (arroyo southwestern) Toad (WLD-2)
- Owl PAC's (WLD-10-15)

Wildland Urban Interface

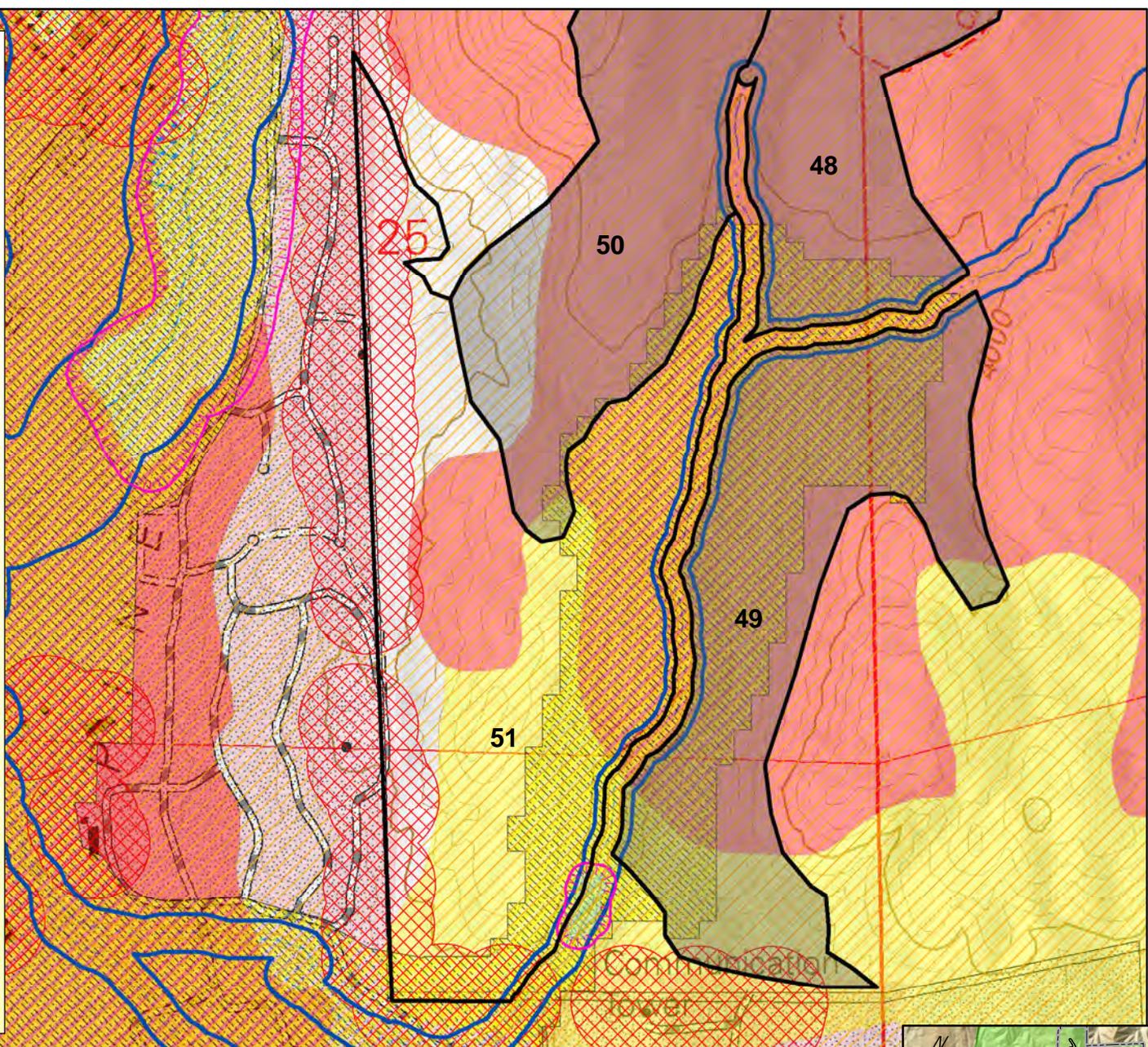
- WUI Defense
- WUI Threat

Erosion Hazard Rating

- Severe (HYD-3)
- Very Severe (HYD-3)

Other Features

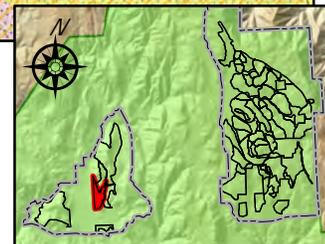
- Sunrise Highway - 200ft. Buffer (VIS-4)
- Developed Recreation Areas - 150ft. Buffer (REC-4)
- Mt. Laguna / Pine Valley Project Units
- Mt. Laguna / Pine Valley Project Area
- CNF Forest Boundary



0 0.05 0.1 0.2 Miles
 1:10,000
 1 inch = 833 feet

Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest

UNIT 51
 114 ACRES



Pine Valley Unit 51 Masticate/Broadcast Burn

Treatment Area Entire unit - 114 Acres

- Special Instructions: Mechanical treatment should generally work on less than 35% slope. No oaks will be intentionally cut unless they are a hazard tree.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 29 Acres

- Mastication Chipping: Initially treat chaparral vegetation down to several inches above ground. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire during a wildfire. Retreat to retain a maximum 18" height of shrub species. Annual treatment could occur in those areas on forest lands within 100' of structures to allow compliance w/ state regs

Treatment Area Only in WUI threat - 85 Acres

- Mastication Chipping: 50 to 70 percent of the vegetation would be treated with untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would be of differing plant species to maintain plant species diversity

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- If budgets allow, survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).
- Where invasive grass cover may increase from treatments, wood chips should be spread to inhibit invasive grass spread (WEED-4).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Masticated and burn treatment areas in WUI threat zones will be non-linear with scalloped or feathered edges to provide a more natural appearance (VIS-3).

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).

Wildlife

- In sensitive amphibian areas, vehicles and equipment will be parked or removed from the habitat before sunset (WLD-4).
- To minimize impact to arroyo toads, no project activities can occur during breeding season (March through August). In addition, no mechanical equipment will be allowed within the RCAs (WLD-8).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

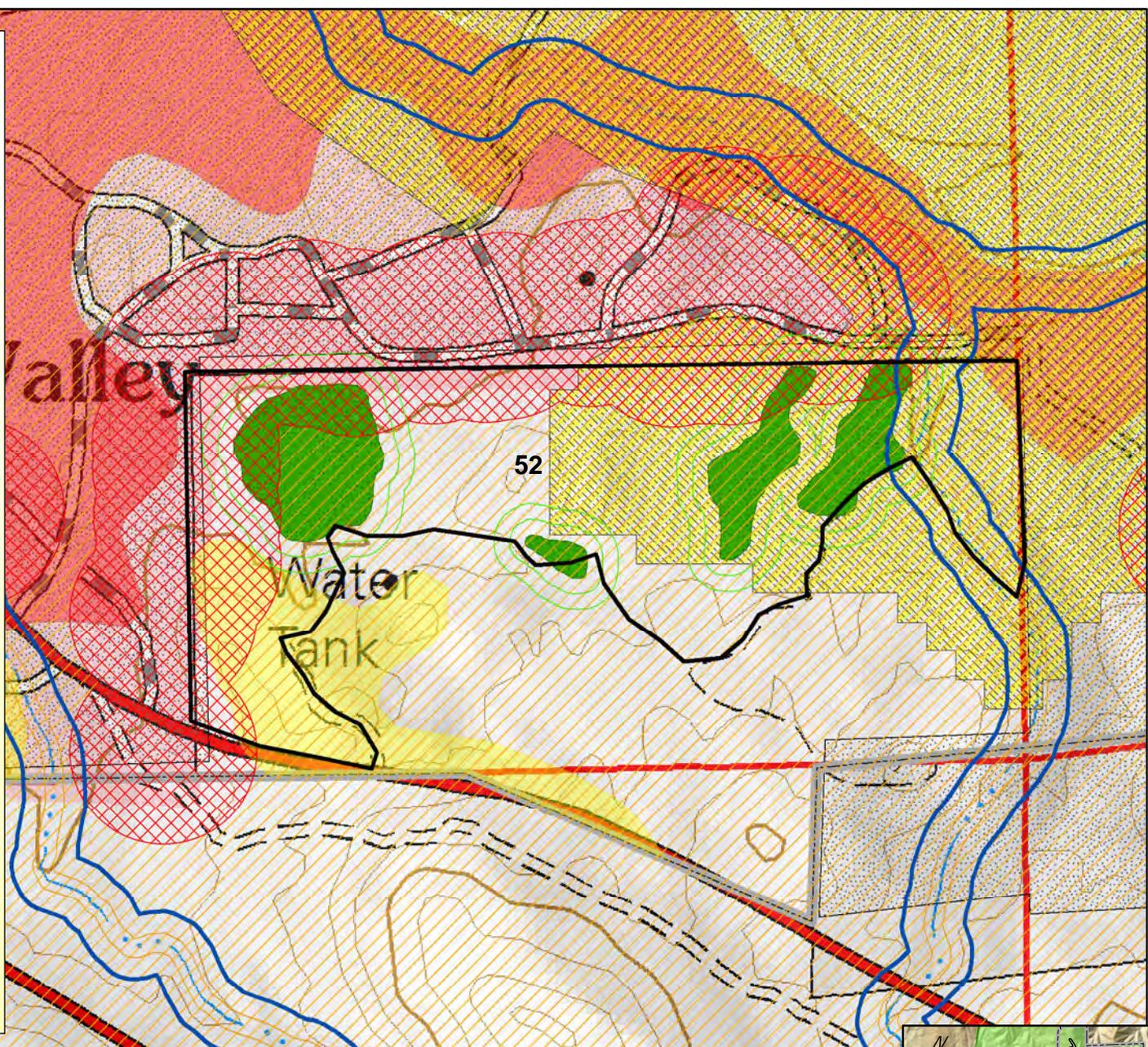
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

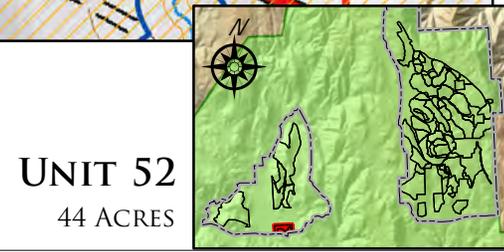
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project
 Implementation Unit Guide
 Descanso Ranger District
 Cleveland National Forest



UNIT 52
 44 ACRES

0 0.05 0.1 Miles
 1:6,000
 1 inch = 500 feet



Pine Valley Unit 52 Masticate/Broadcast Burn

Treatment Area Entire unit - 44 Acres

- Special Instructions: No oaks will be intentionally cut unless they are a hazard tree.
- Mastication Chipping: If mastication or chipped material is generally 3-5" in depth and continuous over 25% of the unit, follow up w/ prescribed broadcast/underburn fire. In the shrub veg types, follow up prescribed broadcast fire will occur within one year of mastication treatments. If this does not occur, consult with qualified ecologist or botanist re: potential impacts to obligate reseeding shrubs.
- Broadcast Burn: Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Treatment Area Only in WUI defense - 14 Acres

- Mastication Chipping: Initially treat chaparral vegetation down to several inches above ground. Individual plants could be left intact as long as they are maintained in such a way as to not ignite and carry fire during a wildfire. Retreat to retain a maximum 18" height of shrub species. Annual treatment could occur in those areas on forest lands within 100' of structures to allow compliance w/ state regs

Treatment Area Only in WUI threat - 30 Acres

- Mastication Chipping: 50 to 70 percent of the vegetation would be treated with untreated islands of shrubs generally no greater than 0.25 acre in size. These islands would have undulating edges to provide a natural appearance. If possible, the retained islands would be of differing plant species to maintain plant species diversity

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- *See general direction for Mt Laguna area for vanishing wild buckwheat (AMS, BOT 3).
- If possible, broadcast burn within one year of mastication treatments in chaparral vegetation types. If this does not occur, consult qualified ecologist or botanist to reduce effects to obligate seeding chaparral species (VEG-1).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Masticated and burn treatment areas in WUI threat zones will be non-linear with scalloped or feathered edges to provide a more natural appearance (VIS-3).

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- In sensitive amphibian areas, vehicles and equipment will be parked or removed from the habitat before sunset (WLD-4).

Wildlife

- To minimize impact to arroyo toads, no project activities can occur during breeding season (March through August). In addition, no mechanical equipment will be allowed within the RCAs (WLD-8).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes:

Hydrology Design Features

-  Streams, 15ft. Buffer (HYD-9)
-  Streams, Lakes Ponds - 30ft. Buffer (HYD-5)
-  Springs, Lakes, Ponds, Wetlands- 25 & 50ft. Buffer (HYD-9)
-  Wet Meadows - 25 & 50ft Buffer (HYD-9)
-  Intermittent / Ephemeral Stream - 30ft buffer (HYD -5/9)
-  Riparian Conservation Area (WLD-7 / HYD-4)

Botany Design Features

-  TES Plants (Not represented in Burn Units)
-  Horkelia Vegetation (WLD-16)
-  TES Plants - 50 & 100ft. Buffer (BOT-2)
-  Meadows - 100ft Buffer (BOT-1)

Critical Habitat Design Features

-  Raptor Nest Sites (WLD-6)
-  Laguna Mountains Skipper (WLD-2)
-  Arroyo (arroyo southwestern) Toad (WLD-2)
-  Owl PAC's (WLD-10-15)

Wildland Urban Interface

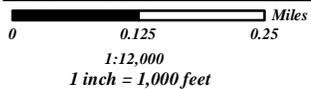
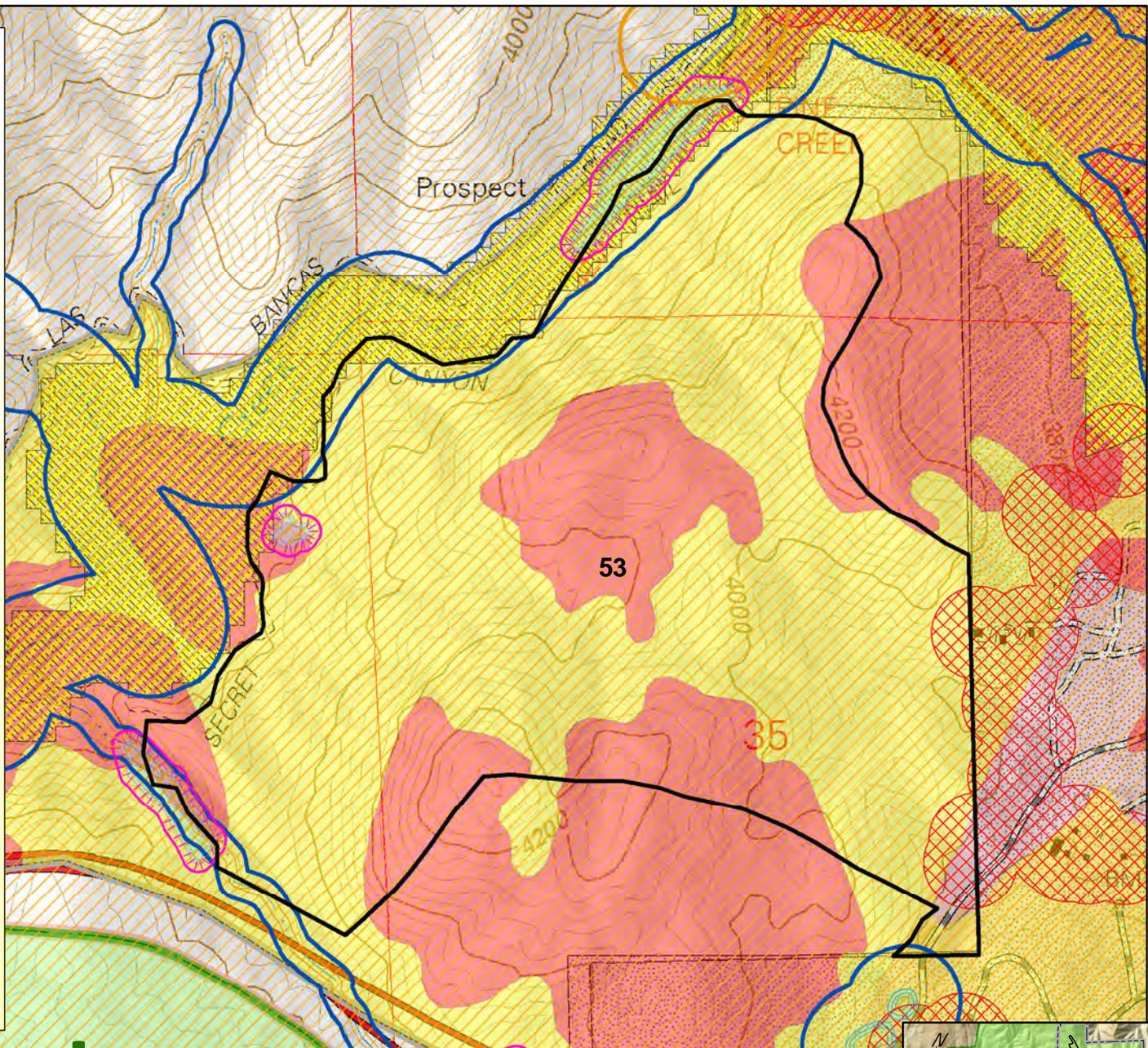
-  WUI Defense
-  WUI Threat

Erosion Hazard Rating

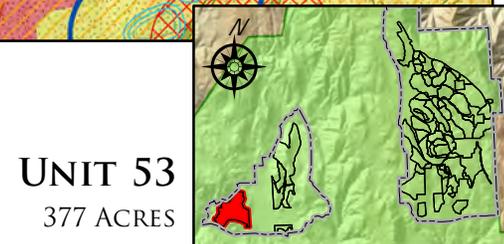
-  Severe (HYD-3)
-  Very Severe (HYD-3)

Other Features

-  Sunrise Highway - 200ft. Buffer (VIS-4)
-  Developed Recreation Areas - 150ft. Buffer (REC-4)
-  Mt. Laguna / Pine Valley Project Units
-  Mt. Laguna / Pine Valley Project Area
-  CNF Forest Boundary



**Mount Laguna and Pine Valley Community Defense &
 Healthy Forest Restoration Project**
 Implementation Unit Guide
Descanso Ranger District
 Cleveland National Forest



UNIT 53
 377 ACRES



Pine Valley Unit 53 Broadcast Burn

Treatment Area Entire unit - 377 Acres

- Broadcast Burn: Treat 50-70% of the chaparral vegetation. Firelines will be hand constructed where needed. Burn prescription is low to moderate. A full range of aerial and ground based ignition equipment and firing patterns may be used to meet this prescription, but typically would be completed by hand (i.e., drip torches).

Air

- Coordinate procedures to avoid adverse smoke impacts to public roadways with San Diego County and Caltrans (AIR-2).

Archaeology

- Contact the Forest Archaeologist at least 2 weeks in advance of project activities to ensure adequate time to arrange for the implementation of the Interim Protocol (e.g. protection measures and monitoring) to avoid effects to historic properties (CR-1,2).

Botany

- If budgets allow, survey after 1 growing season after 1st treatment for sensitive plant spp. If found, consult with botanist/biologist (BOT-4).
- Manually or mechanically treat bull thistle population (e.g., hand pulling, pulling using tools) or flag and avoid prior to treatment (WEED-2).
- Prevent and discourage illegal OHV and unauthorized user trail establishment during and after treatment (WEED-3).

Recreation and Visual

- Only burn during the low-use recreation season (typically between Labor & Memorial Day). Heavy equipment & chainsaws within 1/4 mile of recreation sites, cabins, special use facilities, private land facilities limited to low use recreation season & after 7 am (REC-1).
- Property lines will be flagged prior to treatment to ensure innocent trespass is avoided (REC-2).
- Where firelines will be tied into roads/trails, a visual barrier should be maintained until immediately before operations. Firelines will be rehabilitated as soon as possible after treatment (REC-3).
- Implement temporary closures on roads, trails, recreation facilities and areas when needed for public safety. Where practical, provide alternative locations for camping and picnicking (REC-5).
- Damages to recreation infrastructure will be repaired/replaced to their original condition prior to the next public-use season (REC-6).
- Masticated and burn treatment areas in WUI threat zones will be non-linear with scalloped or feathered edges to provide a more natural appearance (VIS-3).

Wildlife

- Avoid establishing staging areas in special status wildlife habitat and riparian areas (WLD-2).
- All food and trash must be removed from the project site at the end of each day (WLD-3).
- In sensitive amphibian areas, vehicles and equipment will be parked or removed from the habitat before sunset (WLD-4).
- To minimize impact to arroyo toads, no project activities can occur during breeding season (March through August) (WLD-8).
- When possible, avoid treatment activities during bird breeding season (March 15 to September 15). If work occurs during this period, consult biologist. If active nests are located, establish exclusionary buffers until birds fledge (WLD-9).
- Outside WUI defense zones, retain soft snags and acorn storage trees unless they are a safety hazard, fire threat, or impede operability (WLD-15).

Monitoring Notes: