

Contents

Contents

Contents	2
Sierra County Update Community Wildfire Protection Plan Mutual Agreement Page	1
Executive Summary.....	3
Requirements of a Community Wildfire Protection Plan (CWPP)	6
Planning Process	13
Community Description	15
Downieville Fire Protection District Needs:	33
Community Hazard Assessment	53
Critical Findings and Recommendations.....	69
x[.....	81
Future Projects within Sierra County US Forest Service National Forest Foundation et.....	82
The following Maps are of the projects currently in the process of planning By the Tahoe National Forest	90
Projects proposals from the Sierra County Fire safe and Watershed Council 108.....	108
2015 CWPP Status of Recommended Projects by Fire District	119
Appendixes	139
Appendix A: Sierra County Fire Behavior Modeling Model Descriptions	140
Appendix B: Useful Resources in Pre Fire and Emergency Planning	141
Appendix C Firewise communities of Sierra County 142	142

Sierra County Update Community Wildfire Protection Plan Mutual Agreement Page

This document is an update to the 2014 Sierra County CWPP.

This plan identifies and prioritizes areas for hazardous fuel reduction treatments and recommends the types and methods of treatment that will help protect the communities.

The following entities mutually agree with the contents of this Community Wildfire Protection Plan:

Signed for:

Date:

Sierra County Fire Protection District #1

Signed for:

Date:

Loyalton Fire Department

Signed for:

Date:

Sierra City Fire Protection District

Signed for:

Date:

Downieville Fire Protection District

Signed for:

Date:

Allegany Volunteer Fire Department

Signed for:

Date:

Pike Volunteer Fire Department

Signed for:

Date:

Nevada Yuba Placer Unit, California Department of Forestry and Fire Protection

Signed For:

Date:

Tahoe National Forest, U. S. Forest Service, USDA

Signed For:

Date:

Toiyabe-Humboldt National Forest, U. S. Forest Service, USDA

Signed For:

Date:

Sierra County Fire Safe and Watershed Council

Signed For:

Date:

Sierra County Board of Supervisors

Executive Summary

The purpose of this document is to update the wildfire hazards and risks and provide potential projects to mitigate those hazards within the Sierra County responsibility areas, which include the following Fire Protection Districts:

Sierra County Fire Protection District #1

Loyalton Fire Department

Sierra City Fire Protection District

Downieville Fire Protection District

Pliocene Ridge Community Service District

Allegany/Pike City Volunteer Fire Department

The content of this document is intended to aid the County in developing short-term and long-term strategies for:

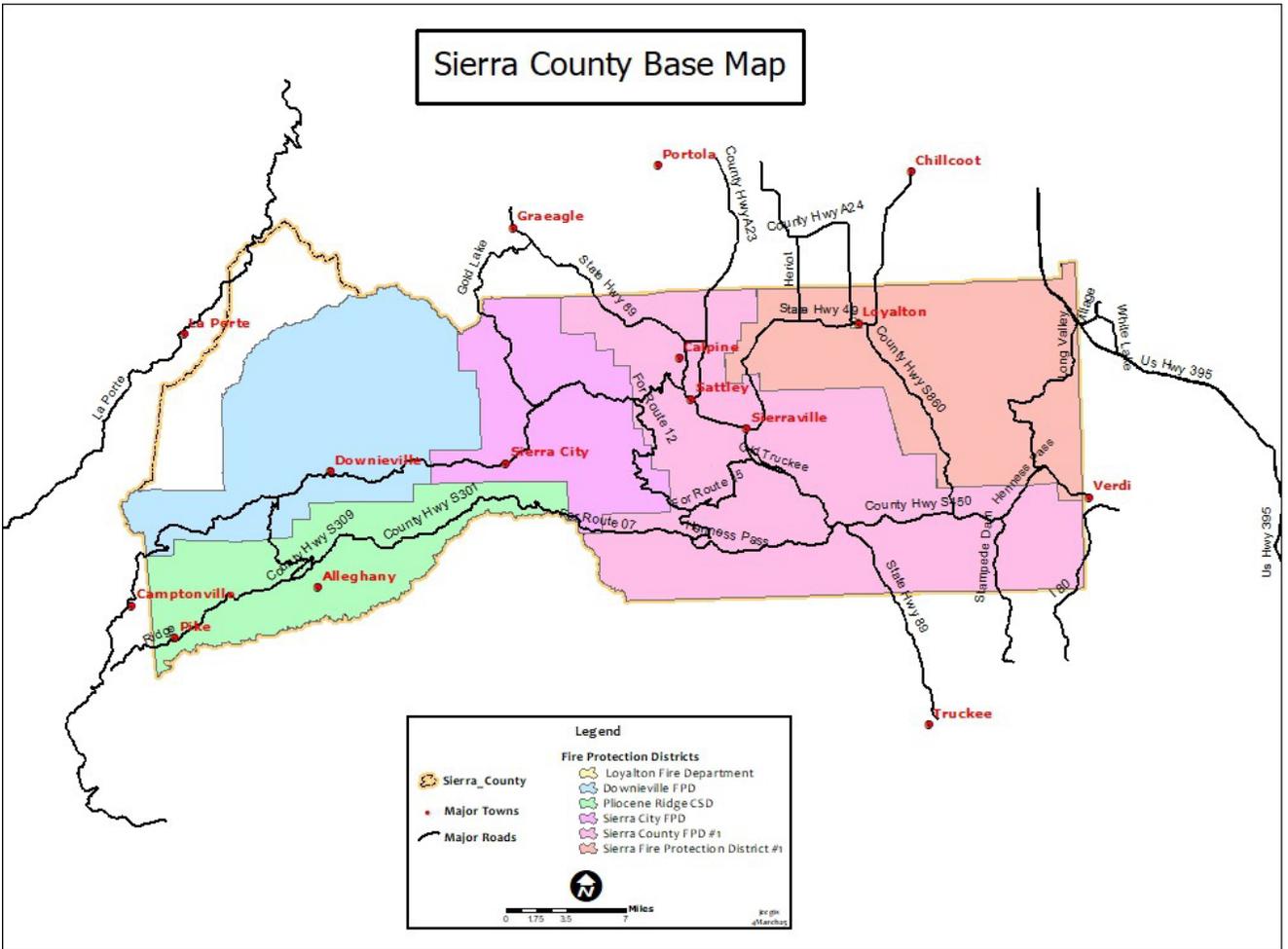
- Hazardous fuel treatment projects and priorities for those projects
- Community wildfire safety education opportunities
- Help public agencies in making valid and timely decisions for wildfires and evacuations.
- This assessment estimates the hazards associated with wildland fire in proximity to communities. Hazard information, in conjunction with values-at-risk information, defines "areas of concern" for the community and allows prioritization of mitigation efforts.
- Provide communities with opportunities to make a difference in wildfire losses with little cost to the taxpayers and the communities themselves.

Sierra County Communities at Risk

The Communities at Risk have not changed in Sierra County and they are listed below:

Community	Federal list
Pike	✓
Alleghany	✓
Randolph	✓
Bassets	✓
Goodyears Bar	✓
Forest	✓
Cal-Ida	✓
Loyalton	✓
Downieville	✓
Sattley - Calpine	✓
Sierraville	✓
Sierra City	✓

FIGURE 1 FIRE PROTECTION DISTRICT MAP



Requirements of a Community Wildfire Protection Plan (CWPP)

Federal

The CWPP is required to be consistent with and tiered to the following documents, federal acts, and policies. The two acts most associated with fuels reduction policy *the 2010 Federal Land Assistance Management and Enhancement (FLAME) Act*

(https://www.forestsandrangelands.gov/documents/strategy/reports/2_ReportToCongress03172011.pdf) (U. S. House of Representatives and Senate, 2009), and ***The Healthy Forest Restoration Act (HFRA) of 2003. The federal agencies' policies that implement the acts are the 10 Year Implementation Plan for HFRA and the Cohesive Strategy.*** These are a national collaborative effort between wildland fire organizations, land managers, and policy making officials representing federal, state and local governments, tribal interests, and non-governmental organizations that will address the nation's wildfire problems.

Together, this document and the 2002 Fire Plan address the elements requested by Congress and represent the next stage in an evolving world of wildland fire management; all with the goal of achieving even safer, more efficient, cost-effective, achievable public and resource protection, and more resilient landscapes.

Fire-Adapted Communities

Despite the challenges of assessing and countering risks, progress is being made to address the threats. One approach is the concept of "fire-adapted communities," one of the three primary elements of the *Cohesive Strategy*.

A fire-adapted community is one consisting of informed and prepared citizens collaboratively taking action to safely co-exist with wildland fire. An inherent part of becoming a fire-adapted community is to assess the community and the threat posed to it by wildland fire. A fire-adapted community generally has achieved or is working toward the following:

- Implementing "Firewise" principles to safeguard homes and "Ready, Set, Go!" principles to prepare for fire and evacuation
- Developing adequate local fire suppression capacity to meet community protection needs•
- Designing, constructing, retrofitting and maintaining structures and landscaping in a manner that is resistant to ignition
- Adopting and enforcing local codes that require fire-resistant home design and building materials

- Raising awareness of and creating incentives for growth planning and management that reduces, rather than increases, fire-prone development
- Properly spacing, sequencing and maintaining fuel treatments across the landscape
- Developing and implementing a CWPP or equivalent
- Establishing interagency mutual aid agreements

<http://www.fireadapted.org/> is a website that is a result of the Cohesive

Strategy.

The Healthy Forest Restoration Act (HFRA) (U.S. Congress, 2003) Requirements for a CWPP include:

The HFRA identifies CWPPs, which allow communities¹ to:

- Fuel-reduction projects identified in approved CWPPs receive priority for funding requests from the California State Clearinghouse (HFRA sec 103 [d1]). Federal agencies shall consider recommendations identified in CWPPs (HFRA sec. 103[b]) and implement those projects on federal lands (HFRA sec. 102[a]).

¹ Communities are defined as at-risk communities or a group of homes and other structures with basic infrastructure and services (utilities, transportation) within or adjacent to federal lands (HFRA sec. 101 [1]).

State of California

This analysis is consistent and supported by the findings in the **2010 and 2017, Forest and Range Assessment of California**. (California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, 2017)

California's Forests and Rangelands: 2010 and 2017 Assessment, California Department of Forestry and Fire Protection, Fire and Resource Assessment Program, June, 2010

Current Status and Trends

- California's long history of wildfire and population growth has led to a set of state laws, regulations and programs that address community wildfire safety. These include state and local planning laws, Fire Hazard Severity Zones and related building standards, defensible space requirements, various fuel reduction programs, the California Fire Plan and CAL FIRE Unit Fire Plans; and the State Hazard Mitigation Plan.
- Community fire protection is also addressed by federal laws and programs such as the Disaster Mitigation Act, National Fire Plan, Healthy Forests Restoration Act, and Firewise Communities Program.
- Local agencies and non-profits play a key role in community fire protection planning. This is accomplished through county fire plans, county general plan safety elements, and through involvement of local fire districts, Fire Safe Councils, and the California Fire Alliance. It also includes local groups such as the Forest Area Safety Taskforce (FAST) and Mountain Area Safety Taskforce (MAST) in San Diego, Riverside, and San Bernardino Counties.
- Community planning is a collaborative effort that typically includes various federal, state and local agencies, CAL FIRE units, Resource Conservation Districts, local fire districts and private organizations.

<https://www.fire.ca.gov/what-we-do/fire-resource-assessment-program>

The new statewide fire plan, 2017 Strategic Fire Plan for California, State Board of Forestry and California Department of Forestry and Fire Protection, August 2017, states for its vision:

“...a natural environment that is more resilient and man-made assets which are more resistant to the occurrence and effects of wildland fire through local, state, federal and private partnerships.” (California State Board of Forestry and Fire Protection, November 2010)

The California Fire Plan is the state’s road map for reducing the risk of wildfire. By placing the emphasis on what needs to be done long before a fire starts, the plan looks to reduce firefighting costs and property losses, increase firefighter safety, and contribute to ecosystem health. The plan was a cooperative effort between the State Board of Forestry and the California Department of Forestry and Fire Protection (CAL FIRE). The basic principles of the fire plan are as follows:

- Involve community members to ensure that fire protection solutions meet individual community needs
- Assess community risk by identifying community assets at risk of wildfire damage. Community assets at risk are public and private resources (natural and manmade) that could be damaged by wildfire
- Develop solutions and implement projects by developing pre-fire management solutions and implement cooperative projects to reduce a community’s potential wildfire losses

California Fire Plan, 2024

<https://www.fire.ca.gov/about/cal-fire-strategic-plan-2024>

Nevada Yuba Placer Ranger Unit, California Department of Forestry and Fire Protection Fire Plan 2021

https://www.placer.ca.gov/DocumentCenter/View/60052/2021_neu_fireplan

California Wildfire Resilience Action Plan

<https://wildfiretaskforce.org/wp-content/uploads/2023/04/californiawildfireandforestresilienceactionplan.pdf>

Sierra County Office of Emergency Services

Sierra County Office of Emergency Services is the agency go to for the Sierra County Hazard Mitigation Plan and other Local Community. The Office serves the communities of Sierra County in times of major disasters. Our goal is to protect the lives and property by assisting first responders to help manage resources. It also has links to many other wildfire and Health services See the following link for more information

<https://www.sierracounty.ca.gov/223/Emergency-Planning>

The Sierra County OES is also the place where the Draft Hazard Mitigation Plan can be found and is currently in the process of accepting input to the draft Plan

The following is the link to the document:

https://sierracounty.ca.gov/DocumentCenter/View/11259/Sierra-County-MJHMP_V1wCover_Public-Comment-Draft_07282025

OES has been a great help in making the public aware of the CWPP update and a great resource for the Communities in Sierra County to prepare for all types of Emergencies.

Community Wildfire Protection Plans (CWPPs) and Local Jurisdiction

On the local level, CWPPs are a product of a collaborative process among local stakeholders to prepare for and deal successfully with a wildland fire emergency. CWPPs provide a specific risk-assessment to a community, identify areas needing specific treatments, and include roles and responsibilities, evacuation routes, resources, and other pertinent information a community needs in times of emergency. CWPPs are comprehensive wildfire planning tools for a community or a county.

Local authorities such as fire departments, county planning and zoning departments and other authorities conduct risk assessments that help them determine their local needs for fuel treatments, equipment, personnel, training, mitigation needs, local ordinances or code adoption and enforcement. Local assessments also can identify which mitigation programs are best for a given community, such as NFPA's "Firewise" and the International Association of Fire Chief's (IAFC) "Ready, Set, Go!"

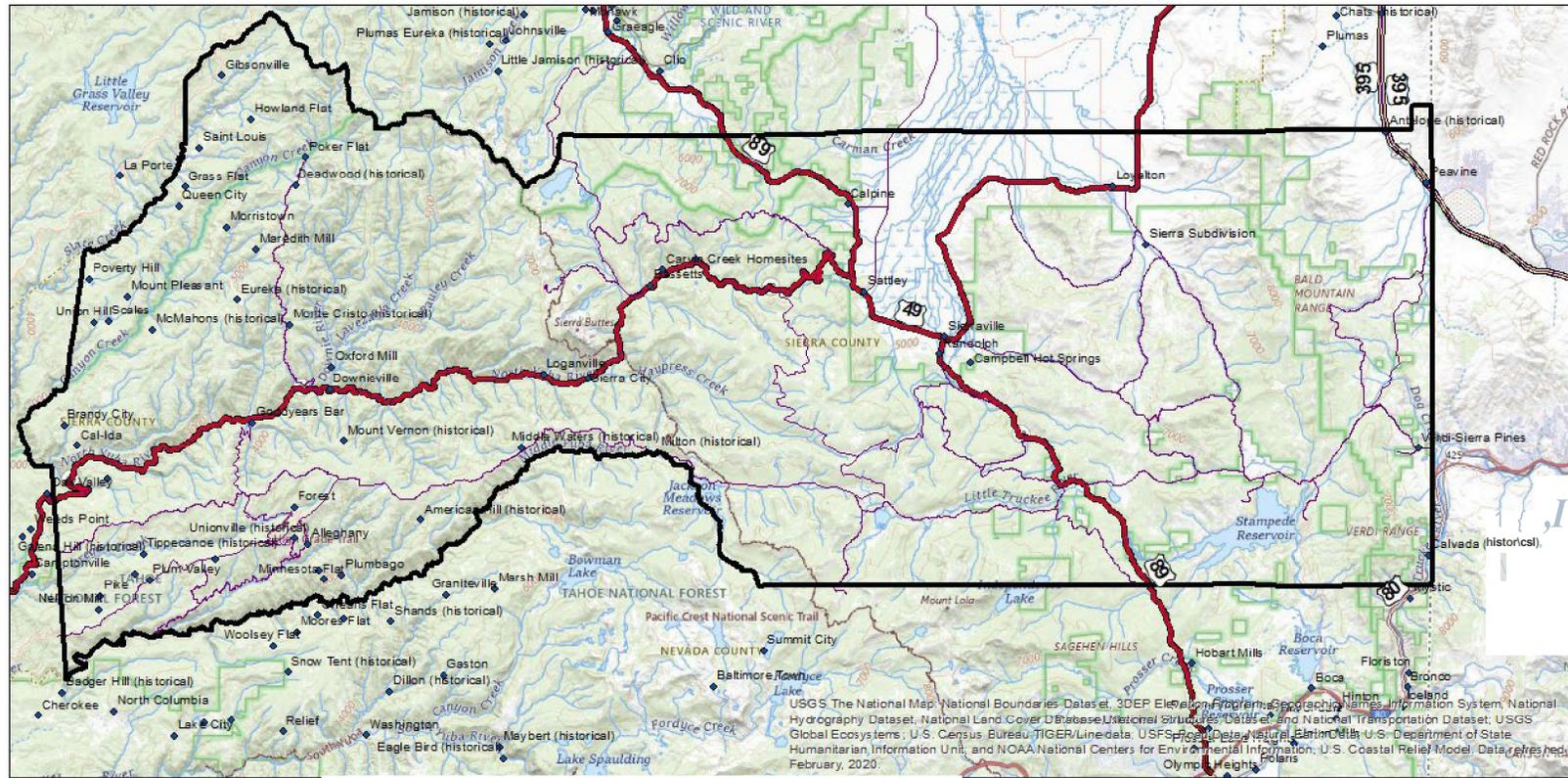
Regulation through codes and ordinances and subsequent enforcement is a major challenge for communities-at-risk since most of those communities are small. Even if they have authority to adopt codes, many communities do not have the resources to enforce them. Sierra County's communities-at-risk are served by volunteer fire departments, if they have fire protection services at all. Many of these departments do not have the resources to take on additional responsibility without additional funding. The paradox is obvious: Often, communities-at-risk that can do the most to make their communities fire-adapted do not have the resources to do so.

The CWPP is only a plan to help reduce the damage from wildfire and increase protection for the community. Reducing the threat of wildfire to a community must be achieved by the residents of the community this document is intended to guide the community toward the result of making the community safer from a wildfire. Federal, state, and local agencies may aid, but ultimately, actions that modify fire behavior or increase structural resistance to a wildfire are the responsibility of the residents. Sierra County communities at risk are unique in some respects since a high percentage of land within the county is owned by the federal government which surrounds the communities. These communities also need to rely on the fuel's treatment done by the US Forest Service to modify fire behavior as well. This means that actions taken or not taken by Forest Service will affect those communities as well. The Tahoe National Forest plays a vital role in providing treatments in the WUI defense and threat zones and because the private property borders the Forest Service property it is important that the FS works closely with the communities

For more information on CWPPs in California, go to the following websites

<http://www.cafirealliance.org/cwpp>

FIGURE 2 MAP OF CWPP AREA BASE MAP



Sierra County Base Map

15,000

7,500

15,000 Meters

N

Planning Process

Primary Collaborators

Government

- United State Forest Service, Tahoe NF
- Sierra County Board of Supervisors

Non-Government Agency Involvement

- Sierra County Fire Safe and Watershed Council
- National Forest Foundation

Fire Department Involvement

- Sierra County Fire Protection District #1
- Loyalton Fire Department
- Sierra City Fire Protection District
- Downieville Fire Protection District
- Allegany Volunteer Fire Department
- Pike Volunteer Fire Department
- CAL FIRE (Limited protection responsibility)
- US Forest Service (direct protection responsibility)

The Sierra County Board of Supervisors will be the lead representative in the collaborative process and development of the CWPP responsible for the following:

- Facilitate and coordinate the overall CWPP process with Local Fire Protection Districts, Federal Agencies, Sierra Pacific Industries (SPI) and other key stakeholders.
- Assist fire departments in providing general discussions and assessments of their departments.
- Provide technical expertise in developing prescriptions for wildfire mitigation treatments.
- Assemble and maintain the final CWPP document.
- Assist in public education efforts for the CWPP

Fire Districts

- Provide input on the assessment process and feedback specific to the fire district for Hazard, Values, and Risk assessments.
- Provide information on past, current, and future mitigation efforts within your district.
- Provide a general description of the fire department and district including its history, size, structure, response statistics, equipment, stations, services, water systems, ignition sources, and any other pertinent information.

- Provide an objective assessment of the department's wildland fire program (including training, prevention, suppression, etc.) identifying its adequacies, future goals, and areas for improvement (training, personnel, equipment, etc.). Assist in recommending areas where grant funding can be utilized.

CAL FIRE

- Provide guidance and technical expertise for CWPP.
- Provide information on past, current, and future mitigation efforts around

county. USDA Forest Service

- Provide information to past, current, and future mitigation work being conducted on Forest Service properties within or adjacent to the CWPP area.
- Provide a general discussion on Forest Service wildfire program (suppression, mitigation, training, prevention, etc.).

Planning Area Boundaries

The Planning area boundaries were divided up by the boundaries of the five rural fire protection districts as shown in Figure 2.

Community Description

Weather, Demographics, Topography & the Wildland Urban Interface Weather

Weather conditions significantly influence the potential for fire ignition, as well as rates of spread, intensity, and direction in which wildfires burn. Wind, temperature, and humidity are the environmental factors that influence wildfire spread and intensity. Wind is considered the most variable and difficult weather element to predict, while wind direction and velocity profoundly affect fire behavior. Wind increases the flammability of fuels by removing moisture through evaporation, by pre-heating fuels in a fire's path, and increasing spotting distances (the distance at which a spot fire might be set by a flying ember). Wind velocities and directions may vary in vertical elevation, with somewhat different impacts on fire behavior. The direction and velocity of surface winds can directly control the direction and rate at which the fire spreads. Winds that blow at least 20 feet above the ground can carry embers and firebrands downwind, causing spot fires to precede the primary front.

Annual highs in the Sierra Nevada are around 90° Fahrenheit, while lows approach 0° F or lower. In the planning area, annual highs are around 90° F, while lows in the winter can approach minus 20° F.

A Mediterranean climate is typical of much of the Sierra Nevada, with an annual drought from May to October, and precipitation, up until the past 3 years of drought, between 35 and 50 inches from November through April. The precipitation is primarily in the form of rain, with occasional snowfall, especially at the higher elevations. The late summer to fall period is the period of time most subject to wildfires, especially during the occasional low pressure Frontal passages and North and east wind events.

Prevailing winds in fire season (generally June through October) are out of the southwest, although infrequent warm easterly winds usually blow from the north to the east and can occur at any time high pressure sets up over the Great Basin but usually occur in the fall months from September through November. More often weather conditions can change rapidly as upper-level wind currents and pressure systems in the western states shift locations, and both dry and wet frontal systems move through the mountainous terrain. Frontal winds associated with low-pressure systems moving across the area can create hazardous fire conditions. Winds in advance of the frontal system can reach speeds exceeding 60 mph over ridges. The atmospheric instability dilutes and disperses smoke but also creates torching (running crown fires are a result of strong winds) and spot fire problems (distances increase as winds increase).

Fires during North or Northeast wind events (subsidence winds) usually result in extreme fire behavior because the winds are particularly strong and dry, thus preheating fuels and predisposing them to burning with intensity. These conditions are usually worse at night, as these winds combined with downslope/down-canyon winds increase the wind speed.

Demographics

Sierra County is a truly rural County. In 2020, the total population in Sierra County was reported to be 3,236 people (U.S. Census Bureau (2020)), a 3.9% decrease over the previous decade.

With a land area of 610,163 acres, the population density averages less than four persons per square mile. Population densities correlate nearly exclusively to the transportation corridors including Highway 49, and 89 and the vast Sierra Valley, which has long been a population and economic center with deep roots in agriculture. Population density also correlates to Local Responsibility Areas (LRA) within the County. State Responsibility Areas (SRA) acres are exclusively interspersed among Federal lands and are Federal Responsibility Areas (FRA).

Direct Protection Areas (DPA) with some LRA around Downieville and in the Sierra Valley. Based on current economic forecasts, Sierra County growth projections through 2020 are expected to decrease by up to -1%. The 2010 census data show an actual population shrink rate of 8.9% for the period 2000 to 2010. Assuming the range of potential growth through 2020, using the current average rate (-8.9 %) and the projected rate (-1%) from State sources, the 2020 population in Sierra County will range from 2,952 to 3,208 people (CAL FIRE Unit Plan).²

Vegetation and Fuels

The vegetation found in Sierra County varies from the high mountain mixed conifer forest from the western county boundary to the east side vegetation of the Sierra to high desert on the eastern boundary.

Sierra County is located east of the Sacramento Valley north and east of Sacramento and is bordered by Plumas County to the North, the State of Nevada to the East, Yuba County to the West and Nevada County to the South. Sierra County has a geographic area of 959 square miles (613,120 acres) of which 62 percent is in public ownership (primarily the Tahoe NF, Plumas, and Humbolt/Toiyabe National Forests). Figure 2, Vicinity Map illustrates Sierra County and its communities at risk.

The Sierra Nevada Mountain Range bi-sects the County in a generally north-south direction, which results in two Geographic Areas (the Westside and the Eastside), with distinct differences in weather, vegetation, topography and to some extent demographics and economy.

Consequently, these elements will be described separately for the east and west sides of the county with the dividing point approximately near Yuba Pass. These variations in vegetation in Sierra County are caused primarily by elevation, aspect, soil, and weather particularly precipitation.

²Unit Strategic Fire Plan Nevada Yuba Placer Unit, update April 2013

Figure 1 *Regional Fire History***Error! Bookmark not defined.**Figure 3 California Wildlife Habitate Relationships Types

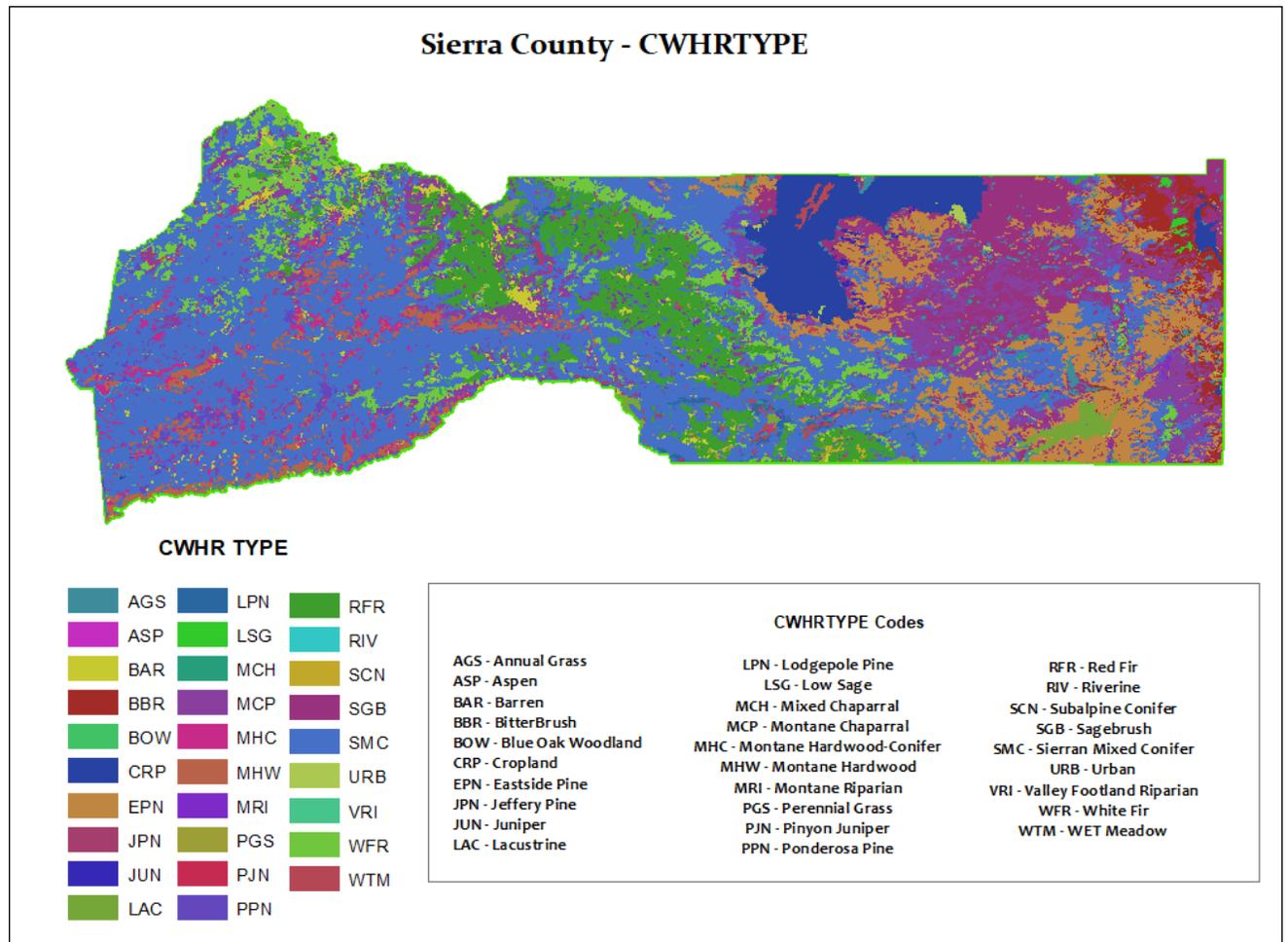


FIGURE 3 CALIFORNIA WILDLIFE HABITAT RELATIONSHIP TYPES

CWHRT (California Wildlife Habitat Relationship Types) was originally established to help identify vegetation types of relationships and wildlife habitats.

Westside

“The lower elevations and some southern aspects are dominated by Mixed Chaparral and Montane Hardwoods (canyon live oak, tanoak, madrone, California black oak, and Oregon white oak with associated conifers that may make up to 1/3 of the stand such as Douglas-fir, ponderosa pine, white fir, and incense cedar).

The mid-elevations (2,500 to 6,500 feet) are dominated with Mixed Conifer (ponderosa pine, Douglas-fir, white fir, incense cedar, and sugar pine with California black oak as a major hardwood associate. Often the understory includes brush species found in the Montane Chaparral (whitethorn, snowbrush ceanothus, Greenleaf manzanita, other associated manzanita species, and bitter cherry).

Mid-elevation Mixed Conifer may be heavier to a single species such as Douglas fir at the lower elevations and in draws, ponderosa pine on ridges or where established in plantations, and white fir/incense cedar where selective logging removed the other species and allowed the shade tolerant residuals to get established.

Above 6,500 feet, vegetation starts shifting to more red fir and Jeffrey pine with montane chaparral species mixed in.

Riparian areas by Montane Riparian species such as bigleaf maple, willow, dogwood, and boxelder at the lower elevations and black cottonwood, quaking aspen, alder, and willow are located at the higher elevations.

Eastside

The higher elevations (above 7,000 feet) are heavy with red fir as at the higher elevations on the west side. Some stands have relatively low levels of brush species, but throughout the zone at least some of the Montane Chaparral species are present.

Between 6,000 and 7,000 feet it is more of a Mixed Conifer with the red fir giving way to white fir, Jeffrey and ponderosa pine, and some incense cedar. Montane Chaparral species occur and a few hardwoods.

Between 5,000 and 6,000 feet, the primary vegetation is eastside ponderosa pine with a primarily sagebrush/grass/litter understory.

Below 5,000 feet, the vegetation is primarily a sagebrush with grass and some scattered junipers.

Riparian areas for the most part reflect the higher elevation Montane Riparian species such as cottonwood, quaking aspen, alder, and willow.”³

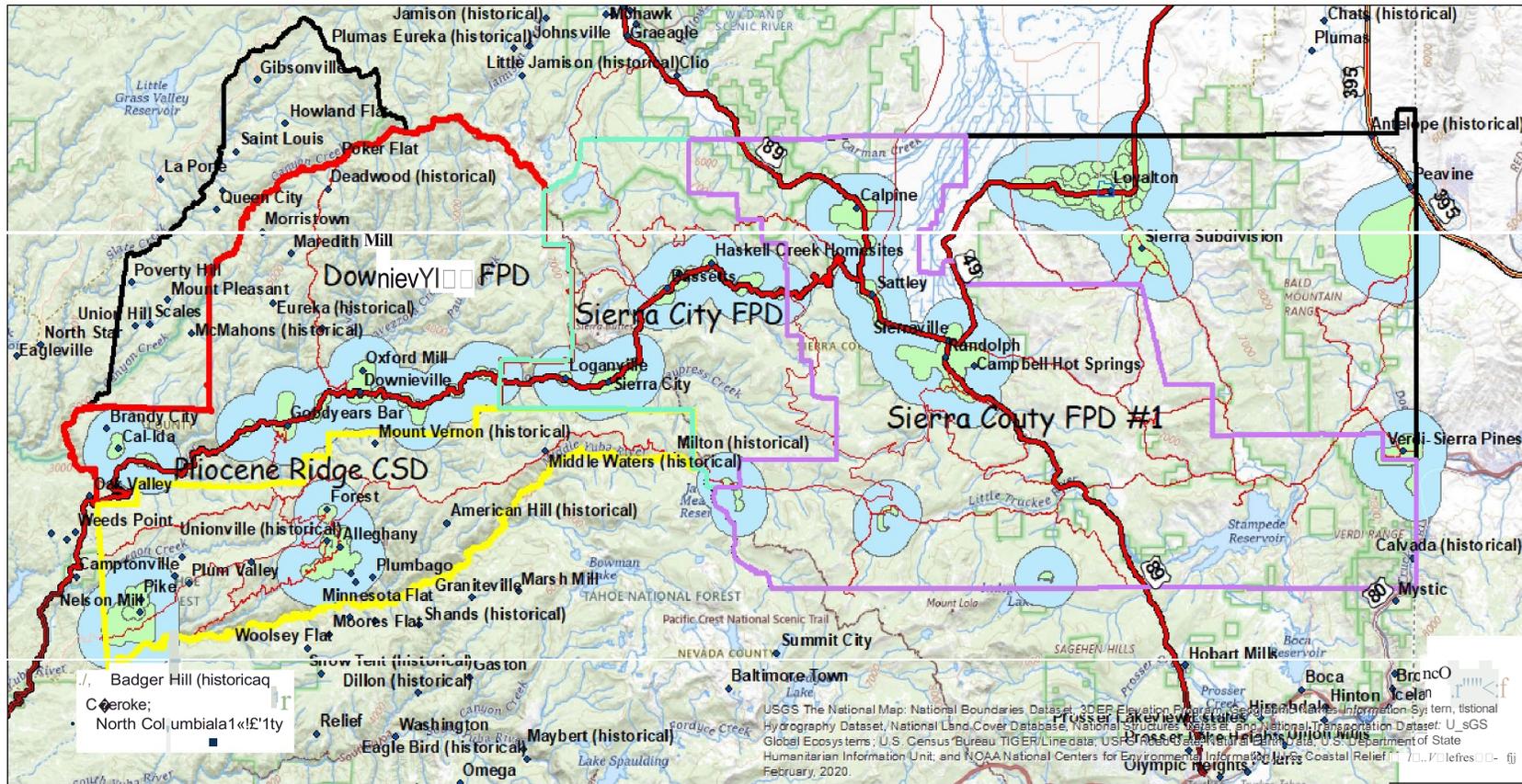
Wildland Urban Interface

“...the Wildland-Urban Interface (WUI) is the area where houses meet or intermingle with undeveloped wildland vegetation” (USDA and USDI 2001)⁴. This definition came from the Federal Registry 66 of 2001. Many changes have occurred to the terminology that surrounds the definition of a WUI area, but the basic definition is unchanged. The WUI today is broken into two distinct areas, the **defense zone** is the area within .5 mile of the urban core and the **threat zone** is the area within 1.25 miles of the defense zone. Figure 3 shows the WUI areas around the communities in Sierra County

Defense Zone. The defense zone that area surrounding the communities up to .5 miles outside the community is the area that should have priority when it comes to fuels reduction; specifically fuels reduction projects and CPRC 4291 enforcement. The intent of treatment of the fuels in the defense zone is reduce the fire behavior under extreme weather conditions so that suppression resources can adequately engage the fire before it reaches the homes and other important community infrastructure. This means that the fire behavior should be such that the flame lengths are less than 4 feet and the rates of spread are slow enough for ground resources to suppress the fire.

Threat Zone. The Treat zone is an extension of the defense zone is an area with a lower priority for treatments with the exception of those areas where fires are known to start or the fire start could spread rapidly into the community. Evacuation routes within the threat zone are another exception to the treatment priorities, in the case of evacuation routes they are considered part of the defense zone and treated with high priority

³ Sierra County Fire Safe Council and Community Fire Safe Plan, 2002, David Nelson, Section 2



2015 WUI



15,000

7,500

15,000 Meters

Legend

Sierra_County_WUI <all other values> Id 0 Defense 0 Threat

USGS The National Map: National Boundaries Dataset, 3-DEP Elevation Program, National Hydrography Dataset, National Land Cover Database, National Structures Dataset, and National Transportation Dataset; U.S. Global Ecosystems; U.S. Census Bureau TIGER/Line data; USFWS Fish and Wildlife Data; U.S. Department of State Humanitarian Information Unit; and NOAA National Centers for Environmental Information Coastal Relief

Community Emergency Fire Department Services

The fire protection capability of a community is an important consideration when evaluating a community's wildfire risk assessment and description. The following tables contain information about each of the fire protection districts equipment and capabilities. The intent of this documentation along with any fire district needs is to get those needs identified so that the CWPP can be a supporting document for any grant proposals or justification for local fire protection district improvements.

Sierra Co FPD #1				
Administrative Address:	P.O. Box 255, Sierraville CA 96126 102 East Main			
Primary Service Area:	329,512 ac. (+/- 515 sq miles)			
Primary Service Population:	1,500			
FY2024 Adopted Budget:	\$349,000			
Emergency Medical Service:	As Support to Eastern Plumas Hosp. District			
SERVICES PROVIDED:				
Specific Services	Self	Contract	Name	
1. Dispatch		Yes	Sierra County SO	

2. Fire Suppression	Yes	Two	City of Loyalton, (\$54K Truckee Meadow (\$48K)	
3. Basic Rescue	Yes			
4. Advanced Rescue	No			
5. Vegetation Mgmt	No			
6. Fire Code Permit/Enforcement	No			
7. Haz Mat Response	No			
8. Construction Plan Check	No			
9. Fire Investigation	No			
10. Community Info/ Education	Yes			
Fire Stations:	List of Equipment	No.	Location	
Station 82	Type 1 Eng	One Each	Sierraville	
	Type 2 Eng			
	Type 3 Eng			
	Light Rescue			
	Type 1 Water Tender			
	Mobil Air Compressor			
Station 83	Type 1 Eng	One Each		

	Type 6 Eng/Light Rescue		Sattley	
	Type 1 Water Tender			
Station 84	Type 1 Eng	One Each	Calpine	
	Type 3 Eng			
	Type 1 Water Tender			
	Light Rescue			
Personnel:	Number	Position		
Paid Staff:	0			
Reserve-Volunteers:	1	Chief		
	1	Asst. Chief		
	1	Bat Chief		
	1	EMS Coordinator		
	12	Cpt/Volunteers		
	4	Reserve Volunteers		
SERVICE PROFILE:				
	Does Not Include Responses from			

	Contract Agencies to the Service Area.			
Service Calls (CY 2024)*	Count		Average Response Time	
Structure Fire				
Wildland Fire				
EMS/Rescue				
Hazardous Conditions				
Service Call				
Good Intent				
All Others				
Totals				
ISO Class Rating: 5				

Loyalton Volunteer fire Department				
Administrative Address:	PO BOX 128 Loyalton Ca 96118			
Primary Service Area:	Loyalton, Sierra Brooks, Loyalton Pines, and surrounding areas			
Primary Service Population:	1800			
FY2024 Adopted Budget:	\$56,000			
Emergency Medical Service:	First Responder, BLS			
SERVICES PROVIDED:				
Specific Services	Self	Contract	Name	
1. Dispatch			Sierra County SO	
2. Fire Suppression	yes			
3. Basic Rescue	yes			
4. Advanced Rescue	no			
5. Vegetation Mgmt	Wildland suppression			
6. Fire Code Permit/Enforcement	no			
7. Haz Mat Response	Awareness			
8. Construction Plan Check	yes			
9. Fire Investigation	yes			
10. Community Info/ Education	yes			
Fire Stations:	List of Equipment	No.	Location	
Station 1	Type 1	1	Loyalton	

	Type 3	1	Loyalton	
	Rescue Pick Up	1	Loyalton	
Station 2	Type 1	1	Sierra Brooks	
	Type V	1	Sierra Brooks	
	Tactical Tender	1	Sierra Brooks	
Personnel:	Number	Position		
Paid Staff:	0			
Reserve-Volunteers:	20			
Support Vehicles	2			
SERVICE PROFILE:				
Service Calls (CY 2024)*	Count		Average Response Time	
Structure Fire	2		7min	
Wildland Fire	10			
EMS/Rescue	210			
Hazardous Conditions	0			
Service Call	25			
Good Intent				
All Others	18			
Totals	265			
ISO Class Rating	4			

Pliocene Ridge Community Service District				
Administrative Address:	100 Pike City Road Pike, CA 95960			
Primary Service Area:	See Map, communities include Pike, Alleghany and Forest City			
Primary Service Population:	Approx.. 300			
FY2024 Adopted Budget:	We are on a fiscal year. For FY 24/25 the income estimate was \$186,600			
Emergency Medical Service:	?			
SERVICES PROVIDED:				
Specific Services	Self	Contract	Name	
1. Dispatch			Downieville FPD	
2. Fire Suppression	X			
3. Basic Rescue	X			
4. Advanced Rescue				
5. Vegetation Mgmt				
6. Fire Code Permit/Enforcement				
7. Haz Mat Response				
8. Construction Plan Check				
9. Fire Investigation				
10. Community Info/Education				
Fire Stations:	List of Equipment	No.	Location	

Station				
Please see attached roster				
Station				
Personnel:	Number	Position		
Paid Staff:	0			
Reserve-Volunteers:	See Roster			
Support Vehicles				
SERVICE PROFILE:	See annual update.			
Service Calls (CY 2024)*	Count		Average Response Time	
Structure Fire				
Wildland Fire				
EMS/Rescue				
Hazardous Conditions				
Service Call				
Good Intent				
All Others				
Totals				
ISO Class Rating				
05/5Y				

Downieville Fire Protection District				
Administrative Address:	321 Main Street, P. O. Box 25, Downieville CA 95936			
Primary Service Area:	Downieville, Goodyears Bar, Indian Valley, Bee Ranch (Sierra 49 PM 0.00-24.62) 161 Square Miles			
Primary Service Population:	404			
FY2324 Adopted Budget:	\$389,012.00			
Emergency Medical Service:	ALS and BLS Ambulance Service for 502 Square miles of Western Sierra County. Active EMS Personnel: Medical Director, Assistant Medical Director, 1 Full time Paramedic, Limited part time Paramedic, 2 active AEMT's, 3 active EMT's. Other reserve EMS personnel.			
SERVICES PROVIDED:				
Specific Services	Self	Contract		
1. Dispatch	Downieville Fire		Fire and EMS dispatch all Western Sierra County. Provided by 6 volunteer Dispatchers	
2. Fire Suppression	Downieville Fire		Provide and Receive Mutual Aid	
3. Basic Rescue	Downieville Fire		Provide and Receive Mutual Aid	
4. Advanced Rescue	Downieville Fire		Provide and Receive Mutual Aid	
5. Vegetation Mgmt.	No		Forward Recommendations	

6. Fire Code Permit/Enforcement	No Enforcement		Sierra County Sheriff's Office	
7. Haz Mat Response	Limited / Mutual Aid		Receive Mutual aid	
8. Construction Plan Check	No			
9. Fire Investigation	Limited	State Fire Marshals Office		
10. Community Info/Education	Downieville Fire	Sierra County Schools for Adults, NORCALEMS	K:PR, EMR, EMT, ki\EMT	
Fire Station	List of Equipment	Number	Location	
Station 1	Structure Type 1 1986 Pierce Dash 750 Gallons	7380	321 Main Street Downieville CA 9536	
	Rescue 1999 Ford F450 All Wheel Drive	7340		
Station 2	Structure/Wildland Type 2 2018 Ford F550 AWD 100 Gallons	7360	160 Pearl Street Downieville Ca 95936	
	Wildland Type 6	7362		

	1999 Ford F550 Pierce Pumper AWD 200 Gal			
	Water Tender 1991 Ford L8000 Diesel 3000 Gallons	7391		
	Ambulance Type I (A) 1996 Chevy 3500 4X4 Wheeled Coach	7343		
	Rescue/EMS 1916 Jeep Cherokee 4X4	7344		
Station 2	EMS/Command 2012 Chevy Tahoe 4X4	7346	160 Pearl Street Downieville CA 95936	
Station 3	Ambulance Type I(A) 2016 Ram 4500 4X4 Leader	7341	100 Court House Square Downieville CA 95936	
	Ambulance Type II (B) 2000 Ford E350 4X4 Leader	7342		

Personnel	Number	Position		
Paid Staff	1	Paramedic	Medic 73	
Reserve Volunteers	14	1 Captain 3 Lieutenants 10 Fire Fighters		
Service Profile				
Service Calls Cy 2024	Count		Average Response Time	
Structure Fire	1		12 Minutes	
Wildland Fire	8		27.5 Minutes	
EMS/Rescue	170		11.4 Minutes	
Hazardous Conditions	3		3 Minutes	
Service Call	25		5.6 Minutes	
Good Intent	14		10.4	
All Others				
Total	221			
ISO Class Rating	6/6X			

Downieville Fire Protection District Needs:

1. Downieville Fire has been actively looking to replace its current Fire Station for many years. October of 2020 the department actively engaged with the US Forest Service to begin the planning, funding and development of a shared facility between Downieville Fire and the US Forest Service Engine crew at Downieville. The facility would be located at the current Downieville US Forest Service Compound. The establishment of a shared facility is positively supported by the Downieville Fire Protection District Board of Commissioners, the US Forest Service Tahoe National Forest, and the Sierra County Board of supervisors. A special use permit application was formally submitted on May 16, 2024

The Fire Station is a mission critical need for the district, partnering agencies, community members and visitors. Substantial funding has been secured. Additional funding and resources will be needed to complete the project

2. Downieville Fire Department has a 1991 3000-gallon Ford water tender. The age on this unit is starting to show. There are significant corrosion issues and frequent plumbing problems. The pump is tired and the unit is reaching the end of its useful life. Steps need to be taken to identify funding sources for replacement This unit needs to be updated with a unit capable of tactical capabilities and a larger pump

Downieville Fire Protection District Community Project Recommendations

Downieville Fire. Protection-District encourages the Federal and local agencies as well as the local Fire Safe Council to identify and secure funding mechanisms, entertain recommendations from the local fire district, and identify future projects around the Indian Valley, Goodyear Bar, Downieville, and Bee Ranch areas. These projects need to be a series of comprehensive plans to construct and reconstruct existing fuel and fire breaks as well as fuel reduction projects.

These projects should include dozer line, hand line and other mechanized equipment on public and private lands. This effort should establish an ongoing trend to increase the level of service related to fire management. It is important to remember that none of these fuel break and fuel reduction plans will be successful without an ongoing mechanism for funding and maintenance of the project areas on ongoing intervals.

The following is a recommendation for a project around the Downieville area. This plan should serve as a starting point and by no means completely incorporates all areas of the plan. As the projects take shape and are funded and completed, other projects can be developed, added, prioritized and future funding identified.

Community	Treatment Location	Average width in Feet*	Length Estimate in Feet	Comments**
Downieville Northwest ridge above town	Reestablish old fire break with a dozer line on the ridge northwest of Downieville	33ft	5500	Tractor construction
Downieville North Ridge above town	Construct fire break on USFS land from Coyoteville north to the above dozer line	15 ft`	2011	Hand cut fire break
Downieville Northeast above town	Re establish dozer line on private property from Oxford Road North to USFS hand line	15 ft	988 ft	Line construction Handline and equipment built
Downieville, Northwest Ridge to Northeast ridge	Improve Natural fire break with a handline from the dozer line coming up the Northwest ridge from Coyoteville to the handline coming up from Oxford Mine on USFS land	15 ft	2090	
Downieville, South of townsite	Construct firebreak on private property from North Yuba River along Southern boundary of townsite to Galloway Rd	15	1325	
Downieville Southeast fo township	Reduce fuels and clean existing roadway of ladder fuels between Peral st and HWY 49 over ridge. On private land	15	948	

These projects were recommended by the Downieville Fire Protection district to protect the community of Downieville. The recommended width and type of treatment should be reviewed by the Forest Service and the CWPP forester recommends a more aggressive approach to the width and type of equipment. All priorities are based on effectiveness ease of establishing *

Recommend width to be 1 and ½ the height of the vegetation and equipment to be used should be recommended based on the steepness as well as consultation with the Forest Service and CALFIRE

- Red lines are proposed established dozer lines
- Blue lines proposed constructed hand lines on USFS ground
- Green lines are proposed fire break with equipment and hand lines on private property
- Orange lines proposed reduction of vegetation and ladder fuels on existing road Private property

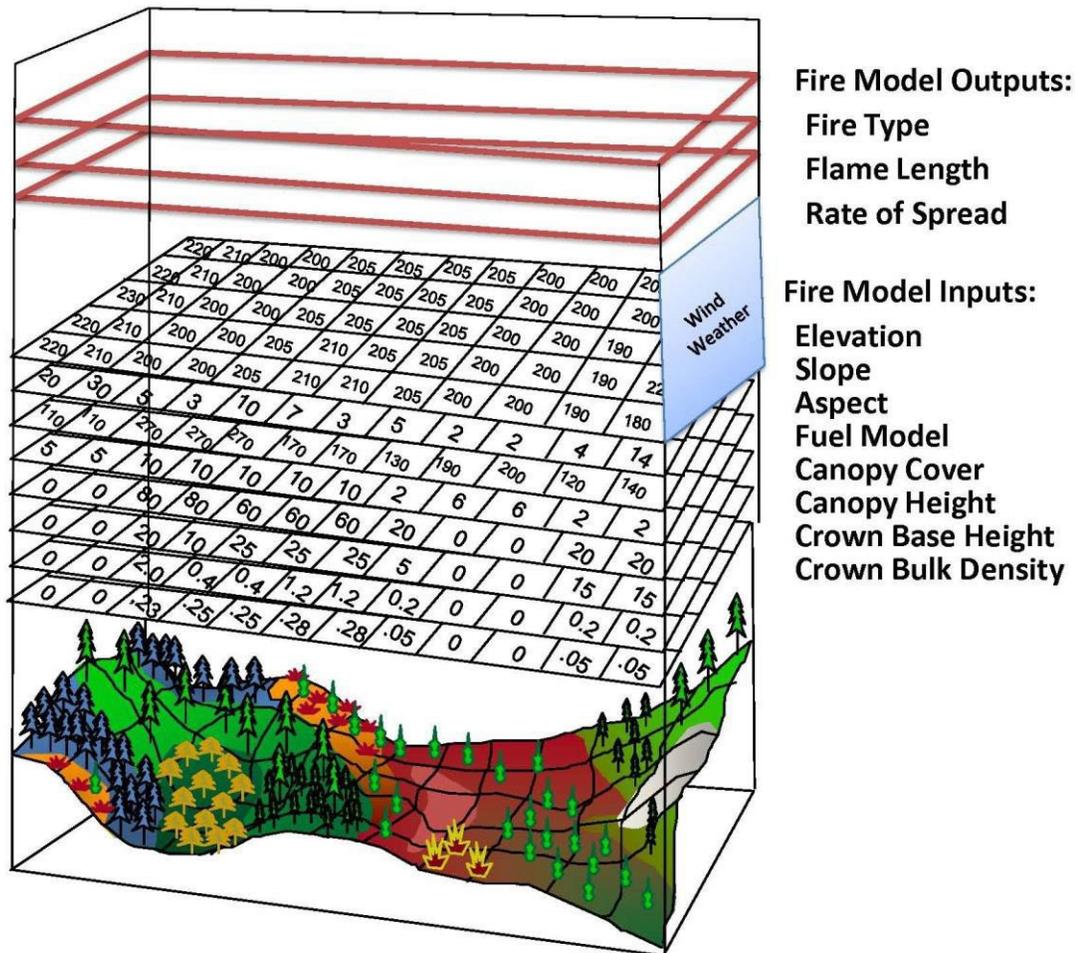
Sierra City Fire Protection District				
Administrative Address:	Sierra City Fire Protection District PO Box 516 Sierra City, CA 96125			
Primary Service Area:	Sierra City, Creen Acres, Gold Lake Road, Hwy 49 to Lady's Canyon			
Primary Service Population:	250			
FY2024 Adopted Budget:	\$142,00			
Emergency Medical Service:	BLS Active EMS Personnel, (3) Limited, Part time EMTs			
SERVICES PROVIDED:				
Specific Services	Self	Contract	Name	
1. Dispatch		Downieville Fire Dispatch	Fire and EMS dispatch Downieville Fire	
2. Fire Suppression	Yes			
3. Basic Rescue	Yes			
4. Advanced Rescue	No			
5. Vegetation Mgmt	No			
6. Fire Code Permit/Enforcement	No Enforcement		Sierra County Sheriff's Office	
7. Haz Mat Response	Limited/Mutual Aid			
8. Construction Plan Check	No			
9. Fire Investigation	No		State Fire Marshall's Office	
10. Community Info/Education		Downieville Fire	Sierra County School for Adults, NoCal EMS	

Fire Stations:	List of Equipment	No.	Location	
Station	Rescue 4x4 Ford F350	7931	Station 1	
	Type 6 4x4 F350	7961	Station 1	
	Type 3 Engine 4x4 International Ferrara	7966	Station 2 Sand Shed	
	Water Tender/Pumper	7991	Station 2 Sand Shed	
Personnel:	Number	Position		
Paid Staff:	0			
Reserve-Volunteers:	17			
Support Vehicles	Chief Command Truck/Rescue	7900	Deputy Chief Hous 513 Brady Dr., Sierra City	
	Pump Trailer (2) 650 GPM pumps		Station 2 Sand Shed	
	Polaris rescue 4x4	7901	Station 2 Sand Shed	
SERVICE PROFILE:				
Service Calls (CY 2024)*	Count		Average Response Time	
Structure Fire	1			
Wildland Fire	2			
EMS/Rescue	68			
Hazardous Conditions				
Service Call				
Good Intent				
All Others	14			
Totals	85			
ISO Class Rating	7-71/2			

Community Hazard Assessment

How was the Community Hazard Assessment completed for the CWPP Update? The Fire Behavior analysis used has changed but the basic information that goes into the analysis has not changed, the outputs also have not changed however the displays, and the accuracy of the outputs have changed as you will see in the example Pike Allegany Maps at the end of this section, in the appendix and attached files. The new modeling is titled **The Interagency Fuel Treatment Decision Support System (IFTDSS)**

This figure is a visual of the Fire Behavior modeling inputs and outputs



The outputs from the modeling were used to evaluate fire effects, determine the likelihood of potential loss and to determine project priorities. Further refinement was completed after consulting with local fire officials and researching historical fire records. Weather data is required to bring local conditions into the analysis to complete this assessment. Typically, the 90th or 95th percentile weather observations (i.e., weather observations that are among the most extreme—only 10% of the observations are more extreme under 90th percentile conditions) are used for fire behavior modeling.

As a rule of thumb is: When the grass cures the chaparral vegetation and the conifer trees will begin to carry fire. Moisture content continues to drop, and the vegetation goes into a dormant state usually in mid-August, at this point wildfires will generally move rapidly through the vegetation living or dead in the CWPP area.

Another important factor in rapid fire spread as previously mentioned is wind direction and speed. To analyze the 2013 hourly wind data from the Stampede RAWs, the Wind Rose Tool was used from the weather station climate data. The wind rose in Figure 6 graphically illustrates 1 year of hourly wind speed and direction collected from the RAWs. The wind rose clearly shows that most of the time during "fire season" the wind comes from the south-southwest direction across the CWPP area. During the months of September and October, winds often become erratic due to the passage of cold fronts. The winds during those months can also be very dry winds from the east and northeast adding to difficulty in controlling wildfires.

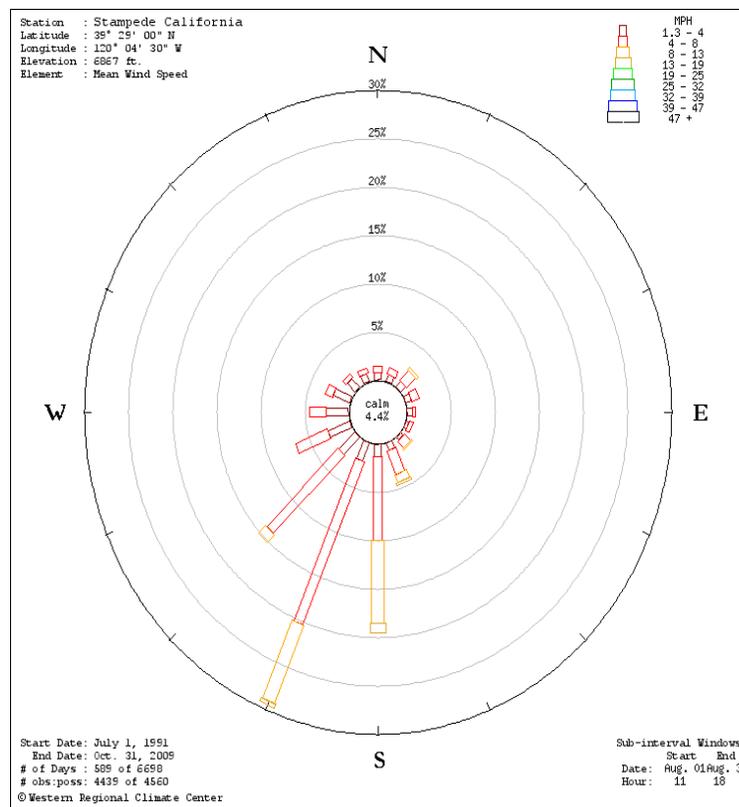


Figure 7: Weather wind rose Typical of the fire season

Wind direction and speed can also be influenced by vegetation type and terrain (slope and aspect) features on the landscape. Figure 7 Weather wind rose shows the average daily daytime (0600-1900) wind speed and direction for the months of July thru October since 1991

Terrain is a landform feature that does not change nor can it be changed. A factor that is constant on the landscape of Sierra County.

Current Risk Situation

CAL FIRE's 2010 and 2017 Forest and Range Assessments can be found at

[Assessment | CAL FIRE](#)

The CAL FIRE, [2010 Forest and Range Assessment](#), chapter 2.1 *Wildfire Threat to Ecosystem Health and Communities*, wrote the definition of key terms for assessing risk. Consistency in understanding these terms and definitions is critical to understanding this analysis. These terms are also important to interpret the results and rankings, which are used to identify areas that are best suited for projects and to set project priorities. The following are the key terms and their definitions.

Risk is a measure of the expected damage that a fire may have on assets that hold value to society. In some cases, fire effects may be viewed as beneficial, in which case a negative risk value would be applied. It is important to recognize that a given fire threat will have a varying impact on different assets, and that differing fire threats have different impacts on individual and collective assets. (Chapter 2.1 page 101, 2010 Assessment)

Fire threat is a measure of fire hazard that includes components for the probability (chance of burning) and the nature of the fire (fire behavior). Taken collectively, these two features assess the basic threat features of periodic wildfires and their capacity to drive fire effects. It is important to understand that fire threat carries no direct measure of fire effects and associated value change associated with fire risk. (Chapter 2.1 page 101, 2010 Assessment)

The current risk to property loss from wildland fires has been classified as very high in much of the CWPP area. This has been caused by human intervention or lack of intervention in the accumulation of flammable vegetation in the urban interface. Years of successful initial attack from local suppression resources have created an environment of complex fuels. Some residences continue to be complacent or desire not to change the vegetation surrounding, the community, which has allowed hazardous fuel to accumulate. Other human impacts that add to this problem of homeowner complacency are due to the increase in absentee ownership, and the number of rental properties, in the area. These properties are not likely going to receive any fire hazard mitigation treatments. Historically, in Sierra County, grazing, logging, and other agricultural uses have played a large role in managing fuels and interrupting the continuity of vegetation across the county. In recent years, grazing in much of the forested areas has been significantly reduced.

An analysis of the current fire behavior within the Sierra County CWPP area was done using IFTDSS Fire Behavior Model. The weather conditions used in the modeling were derived from. Analysis of RAWS data from several weather stations, Stampede, Saddleback, Rice Canyon and Dog Valley. The weather analysis allowed the model to use weather conditions typical of late summer in Sierra County

- Temperature 85-95 degrees
- Humidity 10-15 %
- Eye level wind speed 5-7 mph

The Fire Behavior maps can be found in Appendix A

The other Fire Behavior indicator Flame Length is useful in determining resistance to control Flame lengths greater than 4 feet are very difficult to control. Again, using the same parameters for the weather and the IFTDSS fire behavior modeling to determine flame length a fire behavior specialist can develop the areas resistance to control. Flame length and Rate of spread modeling outputs can be found in Appendix B. When evaluating the maps you can see that much of the CWPP area rates out to an analysis score of 50 to 80 giving it a resistance to control in many areas.

Another modeling source communities can use to evaluate Risk from wildfire is one developed by the US Forest Service

<https://wildfirerisk.org/>

TABLE 1 RESISTANCE TO CONTROL MATRIX

Flame Length (feet)	Rate of Spread (Chains / hour)*	Fire Type X 10	Analysis Score	Resistance to Control
0 to 3.9	0 to 4.9	1x10=10	Less than 18.8	Low (1)
3.9 to 7.9	4.9 to 9.9	10	18.9 to 27.8	Moderate (2)
7.9 to 10.9	9.9 to 19.9	2x10=20	27.9 to 50.8	High (3)
10.9 to 19.9	19.9 to 39.9	20	50.9 to 79.8	Very High (4)
20 +	40 +	3x10=30	79.9 and greater	Extreme (5)

*One Chain equals 66 feet 40 chains per hour equals ½ mile per hour rate of spread

TABLE 2 EFFECTIVE FIRE SUPPRESSION EFFORTS

Resistance to Control		Interpretation
Low 1		<ul style="list-style-type: none"> • Fire can generally be attacked at the head or flanks by people with hand tools and or engines • Handlines should hold the fire
Moderate 2		<ul style="list-style-type: none"> • Fire is too intense for direct attack on the head by persons using hand tools • Handlines cannot be relied on to hold the fire • Equipment such as dozers, fire engines, and retardant aircraft can be effective
High 3		<ul style="list-style-type: none"> • Fire may present serious control problems -- torching out, crowning, and spotting • Control efforts at the fire head will probably be ineffective
Very High 4		<ul style="list-style-type: none"> • Crowning spotting and major fire runs are probable • Control efforts at the head of the fire are ineffective
Extreme 5		

Resistance to Control (Table 2) moderate makes suppression efforts extremely difficult unless there is a break in the vegetation or a change in the weather. Using the above tables and the IFTDSS runs located in a separate document *Sierra County Fire District Fire Behavior* it is easy to calculate how difficult it will be to control a wildfire under late summer weather conditions. The resistance to control throughout much of Sierra County calculates from high to very high in many of the areas. Large fire history in the county supports this finding. See Figures 8 and 9.

A more visible way to interpret fire behavior and suppression Interpretation is to look at what Flame Length will indicate.

Flame Length in feet		Interpretation
2-4 Feet		<ul style="list-style-type: none"> • Fire can generally be attacked at the head or flanks by people with hand tools and or engines • Handlines should hold the fire
Moderate 4-8 feet		<ul style="list-style-type: none"> • Fire is too intense for direct attack on the head by persons using hand tools • Handlines cannot be relied on to hold the fire • Equipment such as dozers, fire engines, and retardant aircraft can be effective
High 8-11 feet		<ul style="list-style-type: none"> • Fire may present serious control problems -- torching out, crowning, and spotting • Control efforts at the fire head will probably be ineffective
Very High 11-20		<ul style="list-style-type: none"> • Crowning spotting and major fire runs are probable • Control efforts at the head of the fire are ineffective
Extreme 20+		

The flame length is the distance between the flame tip and the midpoint of the flame. Flame length is an observable, measurable indicator of fireline intensity.



FIGURE 4 FLAME LENGTH

Example of Fire Behavior used for this CWPP Update

Current Risk

Wildland Fire Behavior

The wildland fire behavior analysis developed for this CWPP was designed to meet two objectives. The first was to examine the existing fire hazard and potential losses in the event of a wildfire, and secondly to use the fire hazard assessment to establish the best treatment locations and priority for those treatments based on expected fire behavior along with input from the firefighting agencies and local community members. The 2010 version of the California Statewide fuels data layer for Sierra County was used in this assessment. This fuels data is the most current inventory of California vegetation that interagency fire experts used to develop the spatial fuels layers for fire planning and decision support in California. The data set was made available from the US Forest Service regional office at McClellan, California. Weather data was used from various Remote Weather Stations (RAWS) weather stations in Sierra County to provide the weather data for the fire behavior modeling. The primary stations used were the Stampede RAWS and Saddleback RAWS, data from Dog Valley and Rice RAWS stations were also reviewed.

A new more useful Fire Behavior modeling program was used. The **Interagency Fuel Treatment Decision Support System (IFTDSS)** was used to update the expected fire behavior for each Fire Protection District. The model is described in Appendix A. The model outputs are much more detailed than the modeling done for the 2015 CWPP and include a more detailed picture and maps are in a separate file provided with this document.

Three important fire behavior outputs are derived and were used in designing the resistance to control maps and tables for the analysis.

Flame Length - used to determine suppression tactics based on how close you can get to the fire

Rate of Spread - used to determine fire spread, direction, and to develop triggers points for decisions

Fire Type - based on the flame length and availability of ladder fuels, the fire can be a surface, torching, or actively crowning wildfire

The following figure (Figure 3) depicts the modeling inputs and outputs for each 30 by 30 meter cell in the spatial grid (approximate every quarter acre). The surface fuel data and mapping done for this document used spatial input data that was randomly ground verified. This allows decision makers to have the best information possible on potential fire behavior and expected

As an example, the following Fire behavior map and scale for Allegheny/Pike area Flame length to determine what the Fire Behavior interpretation is for the area. The Program used to assess the fire problem The fire

Behavior outputs for the other fire districts are in an attached file titled "Sierra County Fire Behavior for Fire Districts."

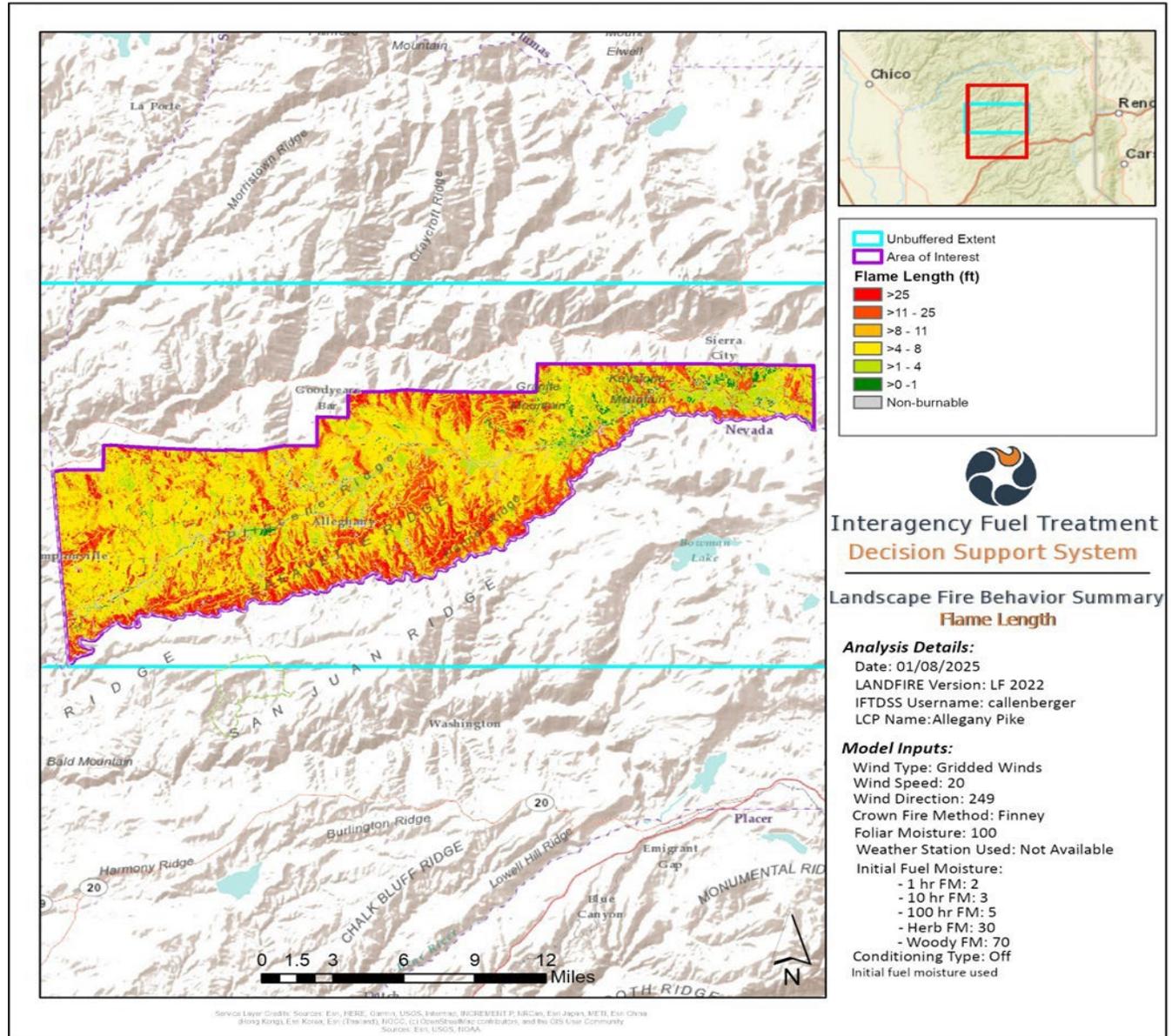
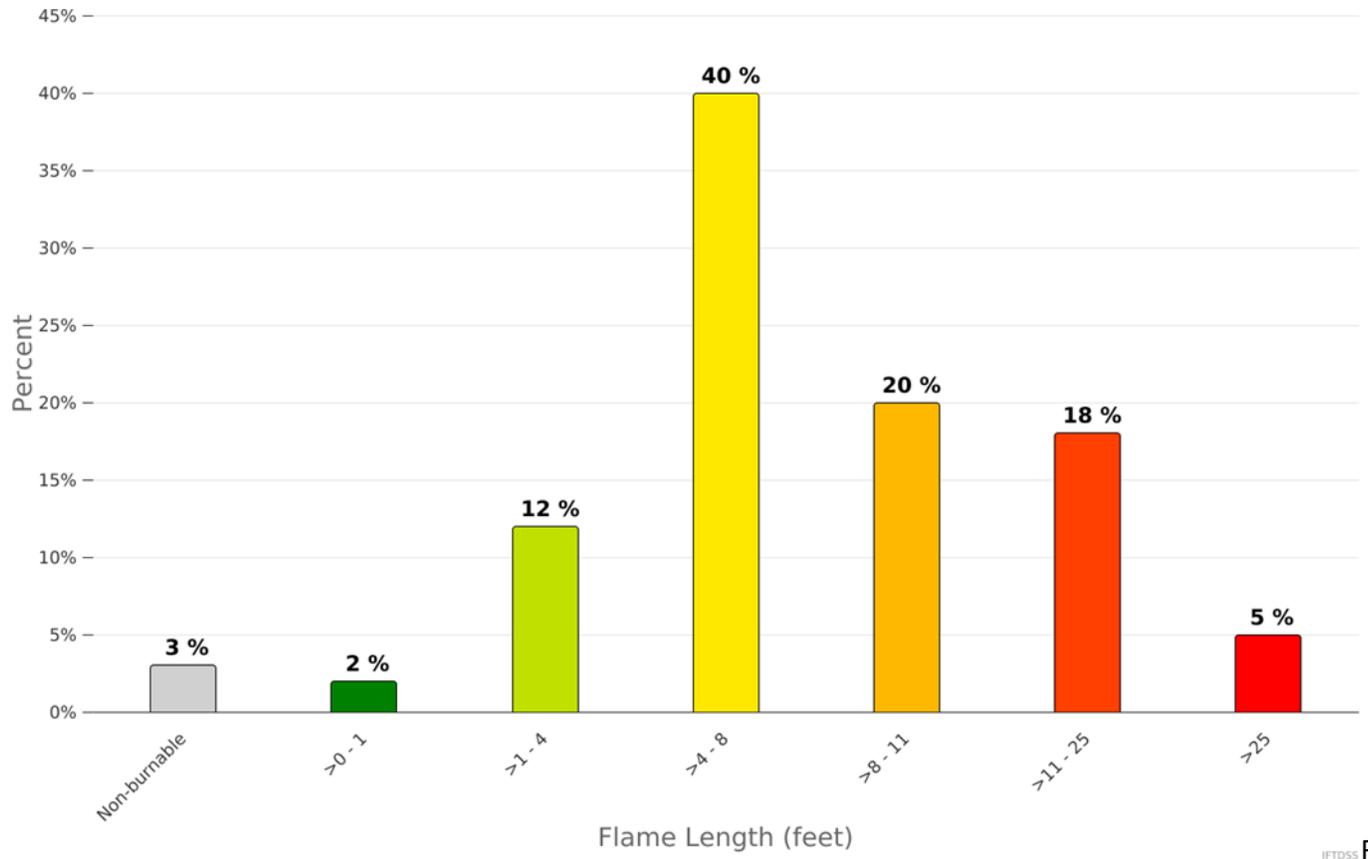


FIGURE 5 FLAME LENGTH



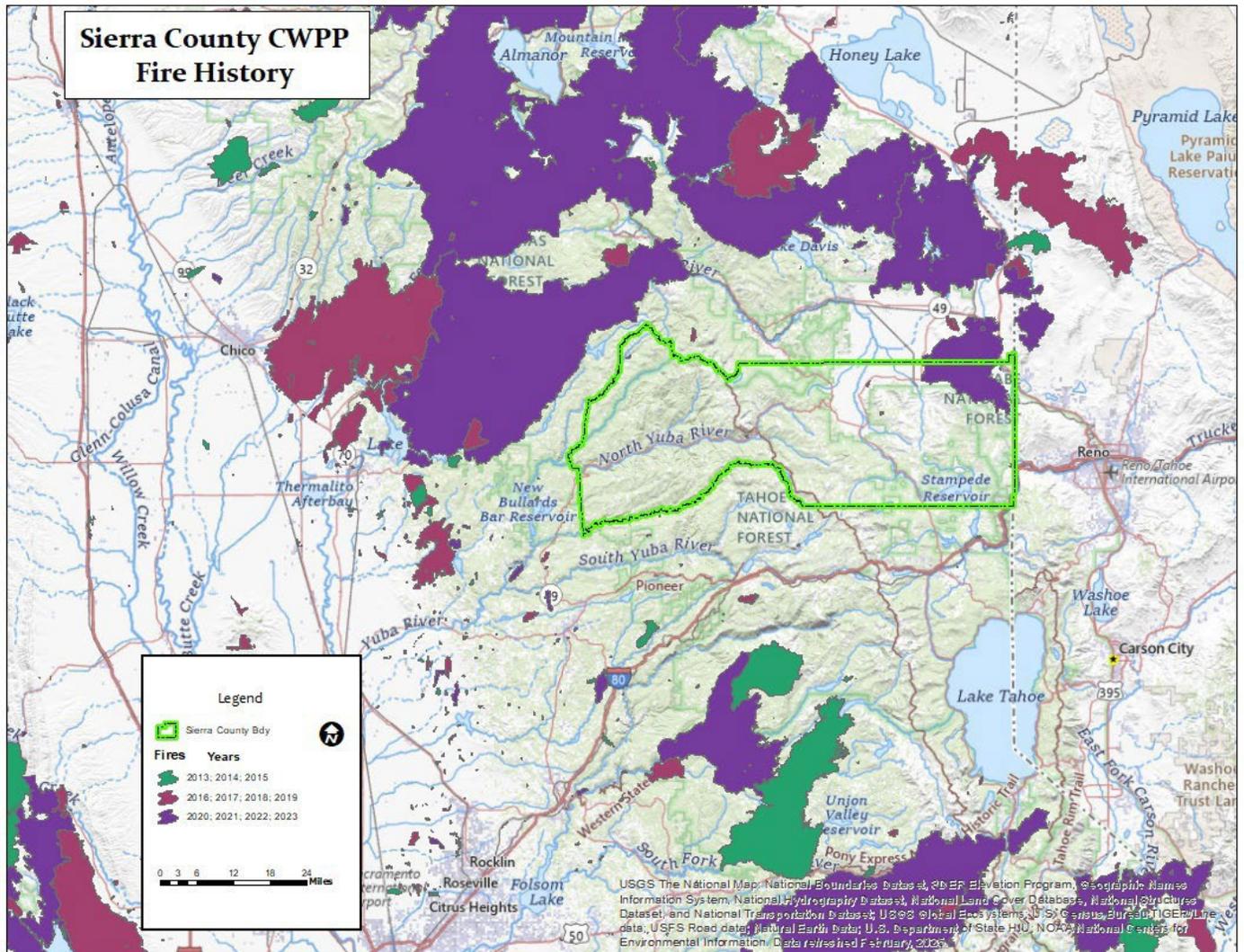


FIGURE 6 REGIONAL LARGE FIRE HISTORY 2013-2023

Fire history plays a major role in assessing the potential for wildfire to affect a community. The fires identified in the table are Five of California's worst fires, The only county in the central Sierra Mountains not severely impacted has been Sierra County. So far, the county has been lucky. The Weather Fuels and Topography. have all been in alignment for the same type of fires as the Camp Fire, the Noth Complex the Dixie Fire, Park Fire, and Caldor fires. The ignition location was the only difference.

	FIRE NAME (CAUSE)	DATE	COUNTY	ACRES	STRUCTURES	DEATHS
1	AUGUST COMPLEX <i>(Lightning)</i>	August 2020	Mendocino, Humboldt, Trinity, Tehama, Glenn, Lake, & Colusa	1,032,648	935	1
2	DIXIE <i>(Powerlines)</i>	July 2021	Butte, Plumas, Lassen, Shasta & Tehama	963,309	1,311	1
3	MENDOCINO COMPLEX <i>(Human Related)</i>	July 2018	Colusa, Lake, Mendocino & Glenn	459,123	280	1
4	PARK FIRE <i>(Arson)</i>	July 2024	Butte, Plumas, Shasta & Tehama	429,603	709	0
5	SCU LIGHTNING COMPLEX <i>(Lightning)</i>	August 2020	Stanislaus, Santa Clara, Alameda, Contra Costa, & San Joaquin	396,625	225	0
6	CREEK <i>(Undetermined)</i>	September 2020	Fresno & Madera	379,895	858	0
7	LNU LIGHTNING COMPLEX <i>(Lightning/Arson)</i>	August 2020	Napa, Solano, Sonoma, Yolo, Lake, & Colusa	363,220	1,491	6
8	NORTH COMPLEX <i>(Lightning)</i>	August 2020	Butte, Plumas & Yuba	318,935	2,352	15
9	THOMAS <i>(Powerlines)</i>	December 2017	Ventura & Santa Barbara	281,893	1,060	2
10	CEDAR <i>(Human Related)</i>	October 2003	San Diego	273,246	2,820	15
11	RUSH <i>(Lightning)</i>	August 2012	Lassen	271,911 CA / 43,666 NV	0	0
12	RIM <i>(Human Related)</i>	August 2013	Tuolumne	257,314	112	0
13	ZACA <i>(Human Related)</i>	July 2007	Santa Barbara	240,207	1	0
14	CARR <i>(Human Related)</i>	July 2018	Shasta County & Trinity	229,651	1,614	8
15	MONUMENT <i>(Lightning)</i>	August 2021	Trinity	223,124	28	0
16	CALDOR <i>(Under Investigation)</i>	August 2021	Alpine, Amador, & El Dorado	221,835	1,005	1
	CAMP Fire	November 2018	Butte	153,336	18,804	85

Fire Response

Local Wildfire Fire Protection Responsibilities:

The wildfire protection area within Sierra County is somewhat complicated. All private lands in Sierra County, except in part of Sierra Valley (bordered by SR 49 on the south and east, the Plumas County Line on the north, and A23 on the west) and Loyalton (an incorporated city) are classified by the State Board of Forestry as State Responsibility Areas (SRA) in the California Public Resource Code (PRC) 4126. Protection of these lands from wildland fire is the direct responsibility of CAL FIRE. However, through a statewide agreement with the Federal Wildfire agencies (US Forest Service Region 5 and Region4) this land falls under the protection of the Tahoe National Forest, the Plumas National Forest, and the Humboldt Toiyabe National Forests, within their Federal Responsibility Areas (FRA). The closest CAL FIRE station is in Truckee CA.

TABLE 3 WILDFIRE AND STRUCCTURE FIRE RESOURCES OTHER THAN LOCAL FIRE DEPARTMENTS

Agency	Station	Resource	#	Location
Tahoe NF	Bullard's Bar	Crew - Hotshot	20	Westside
Tahoe NF	Camptonville	Engine	5	Westside
Tahoe NF	Downieville	Engine	3	Westside
Tahoe NF	Sierraville	Engine	5	Eastside
Tahoe NF	Lewis Mill	Engine	5	Eastside
Tahoe NF	Hobart Mills	Engine	5	Eastside
Tahoe NF	Hobart Mills	Hand Crew	20	Eastside
Tahoe NF	Truckee	Engine	5	Eastside
Tahoe NF	White Cloud	Helicopter	5	Westside
Plumas NF	Blairsdan	Engine	5	Eastside
Plumas NF	Challenge	Engine		

Toiyabe NF	Sparks NV	Engine		
CAL FIRE	Nevada City	Air Tanker – T2 (S-2T)	1,200 gal.	Westside
CAL FIRE	Nevada City	Air Tanker – T2 (S-2T)	1,200 gal.	Westside
CAL FIRE	Dobbins	Engine	3-5	Westside

Agency	Station	Resource	#	Location
CAL FIRE	Dobbins	Engine	3-5	Westside
CAL FIRE	Dobbins	Dozer -	1	Westside
CAL FIRE	Columbia Hill	Engine	3-5	Westside
CAL FIRE	Columbia Hill	Engine	3-5	Westside
CAL FIRE	Truckee	Engine	3-5	Eastside
CAL FIRE	Truckee	Engine	3-5	Eastside

The three National Forests, CAL FIRE, the Nevada Division of Forestry (NDF), and surrounding local fire departments (including those in Sierra County) have other wildland suppression resources in addition to those listed above, including air tankers and helicopters, to respond when requested by any of the three National Forests.

All departments have mutual aid agreements with each other, so the local resource pool is large. However, the dwindling county budget, more cuts to the fire departments are expected, which will lead to fewer staffed positions. Like all volunteer fire departments, they will continue to have difficulty filling and maintaining volunteers. Much of this is due to an aging work force, the large number of commuters, and the increase in training requirements. Sierra County is a small county, population wise, with many residents living in the county but working outside the area, which makes the pool of volunteers unavailable during the day. This keeps the local fire departments recruiting firefighting positions.

Wildland Urban Interface wildfire suppression condition

Generally, three Wildland fire suppression conditions (wildfire with: structures threatened parcels are generally larger than one acre, wildfire with structure-to-structure ignition parcels a generally less than one acre, wildfire without structures) exist in the CWPP area, each requiring a specific suppression strategy that is modified as conditions change, and the fire moves across the landscape. Table 4 below describes the three conditions, suppression strategy and treatments that can be used to mitigate the pre-fire conditions. The treatment strategies are designed to modify fire behavior so that fire suppression resources have a better chance for success. The treatments are not designed to work alone, that is, fire suppression resources must be present to take full advantage of the treatments during a wildland fire. Notice that compliance with California Public Resource Code (CPRC) 4291 is an important part of the treatment strategy (See appendix C for information on CPRC 4291

Table 4 is simply a potential guide for the fire districts to think about when applying projects or suppression strategies to different areas throughout the County. The table is meant to be a guide when determining what treatments should be done to provide community protection

TABLE 4 WILDLAND URBAN INTERFACE CONDITIONS AND SUPPRESSION STRATEGIES AND TREATMENT STRATEGIES

Condition	Suppression strategy	Treatment Strategy
Wildland Fire with structures threatened <i>(parcels are generally larger than one acre)</i>	Perimeter control during IA with rapid transition to Asset protection	Design treatments to modify fire behavior for containment prior to reaching individual structures and group structures. (Compliance of CPRC-4291 critical) adjacent to fuel treatments
Wildland Fire with structure to structure ignition taking place <i>(parcels generally less than one acre)</i>	Asset protection	Compliance of CPRC-4291 Building Codes Road Access / Turn-a-rounds
Wildland Fire without structures <i>(very few if any structures or assets at risk from the fire)</i>	Environmental conditions and resource objectives determine response to unplanned ignitions	Strategically designed treatments to modify landscape fire behavior including strategic perimeter control treatments

Community Preparedness for a wildfire emergency and Action Plan with Recommendations for Projects.

This section covers findings that were made through site visits, meetings with fire district personnel, federal agencies, community members and research of current information on Sierra County preparedness for wildfire emergencies. The first part is Critical Findings and Recommendations and the second part is about potential fire district projects.

Critical Findings and Recommendations

The critical findings and recommendations are based on the community meeting inputs from the CWPP developed in 2015, recommendations by State and Federal fire agencies, the Sierra County fire districts/departments, interested community members, and Wildland Rx the CWPP contractor.

County Hazard Mitigation Plan

Finding: Sierra County is currently updating its 2012 Hazard Mitigation Plan and should become a part of the Community Wildfire Protection Plan because many of the information in the two documents will overlap each other. We will be sharing our information with each other

Fire Response

Finding: Currently the initial attack has been successful, and extended attack has worked well with all agencies working together to suppress fires quickly. The first engine on scene can be as much as 30 minutes from the time a report of a wildfire is made until they arrive on scene. Currently all the volunteer fire districts in the county are finding themselves with insufficient funding and forced to reduce services and maintain ageing equipment for long periods, across the board. This will lead to reduced capacity and increase in response times to incidents of all types within the county.

Recommendations: The Community needs to be vigilant and realize that suppression resources can be limited, and that it is important to keep informed of resources draw down and participate with the individual fire protection districts in increasing their protection capabilities or preventing their budget cuts.

Communications and Early Warning in case of wildfire

Radio Communications and Repeaters

Sierra County Sheriff's Office has numerous Radio Repeater sites that are likely to be affected by a wildfire and should be maintained and hardened to prevent damage during a wildfire. These sites are located on hill tops with very limited access. These sites need to be evaluated and treatments proposed to protect them. The US Forest Service also has radio repeater sites that should be included in an evaluation by the Forest Service and action taken to protect them.

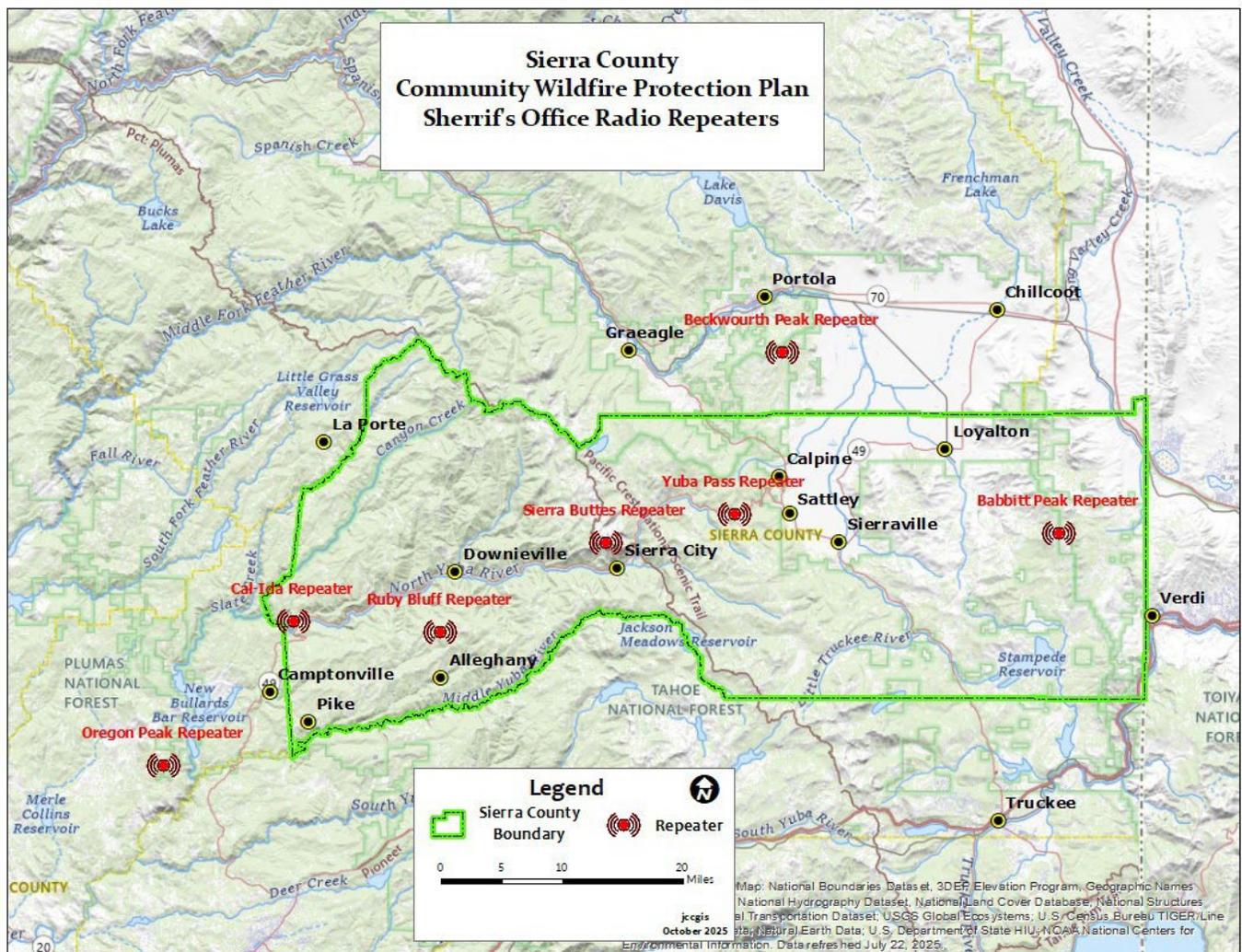


FIGURE 7 SIERRA COUNTY SHERIFF RADIO REPEATERS

A member of the Sierra City community has voiced a concern about one of the radio repeater sites

I have made mention that moment the important ways that citizens are made aware of emergency situations through the radio system such as the Sierra Buttes, Ruby and Hilda repeaters. The Hilda is a dilapidated and held together by temporary Band-Aids. This repeater is an essential piece of emergency communication for the Sierra City area. I do not see any mention of communication needs/upgrades for Sierra County. When the power is out and ATT (landline/internet) is down, there is no other communication access except for these repeaters. Fuel reduction is great, but if you can't get the word out when normal communication methods are down, people cannot be made aware quickly enough and get out.

Recommendation:

This concern needs to be addressed and with the location of Sierra City in a steep canyon and limited communication be a priority for the county

Emergency Communications with the public

Sierra County participates in a system called Everbridge, a high-speed system of communication that gives officials the capability to quickly notify community members of emergencies that may affect their area.

The Sierra County Sheriff's Office has implemented a registration system Everbridge Emergency Alerts system, which is below. This link will also give you other information about emergencies with in the county and provide a link to signup for emergency notifications

<https://www.sierracounty.ca.gov/676/Emergency-Alerts>

Roads and Evacuation Planning

- Many of the residents live on limited ingress egress roads, many of the primary and most of the secondary roads in the CWPP area have segments that need to be evaluated for accessibility for suppression resources and evacuation planning. Most large fire engines will have difficulty on these roads.
- More public fatalities can occur during evacuation than from their structure burning down around them.
- The county is severely limited in the number of on duty fire and law enforcement personnel that can be used to begin evacuations in the event of rapidly moving wildfire

Until recently with the advent of statewide standards for roads in Title 14, the road requirements have been under attack. To add to the standards issues, like many of the roads in Sierra County, the streets and roads were constructed years before any standards were even considered, and homes were constructed right up to the edge of the narrow

roads. Some roads in the county are little changed from the gold rush era of the mid 1800s, particularly the roads in the older communities. Today's private and commercial vehicles and fire equipment are much larger than they were even 30 years ago. Many of the roads in the county that were constructed earlier than 30 years ago were not expected to be conduits for today's population or vehicle sizes. The primary roads in the Sierra County CWPP area shown in Figure 10.

Road Maintenance and Primary Evacuation Road

It is important to coordinate with the County Department of Transportation (DOT), CALTRANS, and local fire districts on setting priorities for roadside clearance to support emergency services as well as evacuation. The result would be that hazard tree and brush removal operations are focused in areas of greatest need based on evacuation planning, road conditions, and numbers of residences served. Road maintenance standards used by the county could be both educational and used as a model by homeowner and road associations.

Another weaknesses along the primary evacuation routes are choke points. Choke points are points in roads that feeder roads connect to primary routes and are points that potentially will hinder smooth and rapid evacuation. It is critical to any evacuation that traffic control be set in place as fast as possible at these choke points. Evacuation can be further constrained by the availability of law enforcement personnel. The county is severely limited in the number of on duty personnel and the travel distances that they may need to travel, that can be used to begin evacuations in the event of a rapidly moving wildfire.

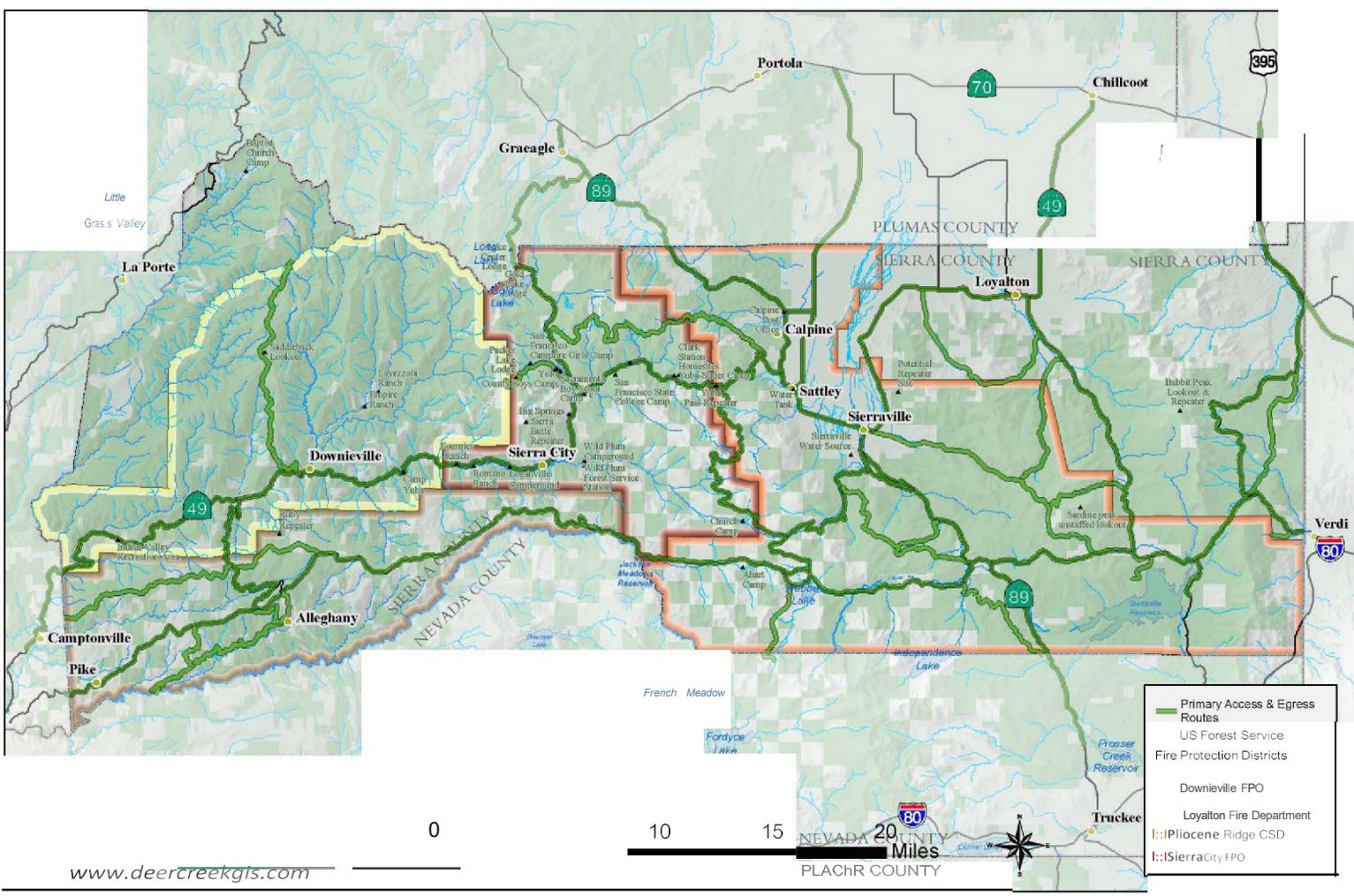
Recommendations: Residents need to understand the emergency equipment limitations that pertain to them and the problems their roads cause during suppression and evacuation

Fire District/Departments should inspect all the roads in their district and make recommendations on whether they are passable for fire equipment and evacuation. County Office of Emergency Services (OES) along with the Fire District establish trigger point for evacuation and actively get community support for evacuation drills. Make sure that the message for evacuation planning is consistent and the plans identified in this CWPP are well distributed to community members.

The idea of keeping and maintaining roads and long driveways open for fire engines is important and recognition of the acceptable standard for roads is the clearance of 15 feet height and 18 feet wide is important to the safety of all. The California Title 14- Natural Resources Division, 1.5- Department of Forestry, Chapter 7- Fire Protection, Subchapter 2 SRA Fire Safe Regulations Articles 1-5, Article 1. Administration, Article 2. Emergency Access, Article

3. Signing and Building Numbering, Article 4. Emergency Water Standards, Article 5. Fuel Modification Standards sets the current standards for new road construction. Understanding that new roadbed standards can't be enforced on old roads. However, vegetation removal, turnouts and turnarounds along these roads should be encouraged by the fire districts.

FIGURE 8 PRIMARY ROADS FOR ACCESS AND EGRESS ROUTES



Individual understanding of Evacuation Planning

There does not seem to be a specific evacuation plan for the communities in Sierra County. The County has a web page with some basic information. The County has done a great job of providing the public with information and it can be found on the below website or in the Sierra County Resource Guide.

Recommendations:

Evacuation Planning

Evacuation Planning is an important component to any CWPP. Educating the public about that importance will strengthen the community's wildfire preparedness. Weekend evacuation exercises should be carried out within communities periodically. Local government (OES, CHP, sheriff offices, fire department, and volunteers) with the help of pre-existing organized groups, set up the exercises. These efforts must be community or neighborhood-based exercises and should be preannounced and well organized.

<https://www.sierracounty.ca.gov/676/Emergency-Alerts>

There are several resources available for making plans and preparing for a wildfire one of the best is located on the internet at <http://www.readyforwildfire.org> created by CAL FIRE and contains numerous pointers on preparing your home and family for a wildfire, the web page is titled Wildfire is coming ARE YOU READY?

The Firewise and the Fire Adaptive Communities website is an excellent source of preparing the community for wildfire

Sierra County Firewise communities and their documentation is located in the attached files file

<http://www.firewise.org>

<http://www.fireadapted.org/>

Another source for all types of disaster planning is the American Red Cross the web address is <http://www.redcross.org>

Why communities should prepare for wildfire: the following are some examples to illustrate why communities need to be prepared for evacuation. Even though they are examples from large fires in southern California it can happen in Sierra County under the right conditions, and a fire starts in the right location.

Basic Individual Preparation for Evacuation

Evacuate immediately if told to do so. Evacuation instructions will be broadcasted by local authorities on the telephone or internet, The use of local radio, and television is difficult in the county because there are non-located within the county. You may receive a telephone call by Reverse 911 or if registered with Sierra County's "Everbridge Emergency Alert System", an automated system to get emergency information to the public.

To Register with Everbridge go to the Sierra County Official website:

<https://www.sierracounty.ca.gov/676/Emergency-Alerts>

When activated, the reverse 911 or Code Red system has the ability to send a pre-recorded message to thousands of telephone customers every minute. If you receive such a call listen carefully to the instructions. Information may include the nature of the emergency, the need to evacuate or shelter in place, shelter locations and how to receive further information. The recorded message will be repeated allowing you to write down any necessary information.

If Evacuation is a Possibility

- Locate your **Evacuation Checklist** and place the items in your vehicle.
- Park your vehicle facing outward and carry your car keys with you.
- Locate your pets and keep them nearby.
- Prepare farm animals for transport.
- Place connected garden hoses and buckets full of water around the house.
- Move propane BBQ appliances away from structures.
- Cover-up. Wear long pants, long sleeve shirt, heavy shoes/boots, and cap, dry bandanna for face cover, and goggles or glasses. 100% cotton is preferable.
- Leave lights on in the house - door unlocked.
- Leave windows closed - air conditioning off.

The Evacuation Process

1. Officials will determine the areas to be evacuated and the routes to use depending upon the fire's location, behavior, winds, terrain, etc.
2. Law enforcement agencies are typically responsible for enforcing an evacuation order.

Follow their directions promptly.

3. You will be advised of potential evacuations as early as possible. You must take the initiative to stay informed and aware. Listen to your radio/TV for announcements from law enforcement and emergency personnel.
4. You may be directed to temporary assembly areas to await transfer to a safe location.

If You Become Trapped

While in your vehicle:

- Stay calm.**
- Park your vehicle in an area clear of vegetation.**
- Close all vehicle windows and vents.**
- Cover yourself with wool blanket or jacket.**
- Lie on vehicle floor.**
- Use your cell phone to advise officials – Call 911.**

While on foot:

- Stay calm.**
- Go to an area clear of vegetation, a ditch or depression if possible.**
- Lie face down, cover up.**
- Use your cell phone to advise officials - Call 911.**

While in your home:

- Stay calm, keep your family together.**
- Call 911 and inform authorities of your location.**
- Fill sinks and tubs with cold water.**
- Keep doors and windows closed, but unlocked.**
- Stay inside your house.**
- Stay away from outside walls and windows.**

** Note – it will get hot in the house, but it is much hotter, and more dangerous outside.*

After the fire passes, and if it is safe, check the following areas for fire:

- The roof and house exterior.**
- Under decks and inside your attic.**
- Your yard for burning trees, woodpiles, etc.**

Returning Home

Fire officials will determine when it is safe for you to return to your home. This will be done as soon as possible considering safety and accessibility.

When you return home:

- Be alert for downed power lines and other hazards.**
- Check propane tanks, regulators, and lines before turning gas on.**
- Check your residence carefully for hidden embers or smoldering fires.**

To assist Law enforcement and fire personnel in evacuation during emergencies Sierra County has implemented a Community Emergency Response Team (CERT) program run by OES. The Community Emergency Response Team (CERT) is a training program that prepares people in neighborhoods, the workplace, and schools to take a more active role in emergency management planning. It helps to prepare yourself and others for disaster. These trained personnel, in the event of an evacuation or other emergencies can be readily dispatched to assist law enforcement or fire protection personnel.

Water Sources

Findings: There needs to be an effort to continue to add to the water sources in the fire protection districts. The CWPP questionnaire answered by the community at the community meetings in 2014 identified the importance of adequate storage of firefighting water and locations of tanks, pond and other water sources was identified as one of the top three concerns. It is important to determine current strategy for water storage and evaluate the water capacity of the sources for all areas within the CWPP boundary.

Recommendation: Establish a committee with involvement of the Local Fire Districts and the water districts who can work to evaluate the current water sources and determine any potential improvements. The fire district should continue looking at sources for funding to improve the current water sources in the community. The Structure Protection Preplan (Appendix E) forms can be used to gather this information on water source locations and capacity.

Collaboration, Public Education and Prevention CPRC 4291

Findings: CPRC 4291 limits defensible space development and maintenance to a zone around a building or structure, placing the burden of defensible space on the property owner. No such burden, however, is assigned to owners of vacant lots within the communities at risk. Where existing buildings or structures are close to unmaintained lots, defensible space treatments can be effective in protecting that building or structure.

Recommendation: Local Fire Districts, the City of Loyalton, or Sierra County, have the authority to develop ordinance(s) that can place the burden on owners of undeveloped lots within communities at risk to treat accumulated fuels, weeds, rubbish, and stored building materials. To be effective, such ordinances should assign responsibility, prescribe corrective action, allow the responsible party time to accomplish fuels treatment, allow the responsible agency the opportunity to correct situations in non-compliance, and to allow the responsible agency to place liens on the subject property to effect cost recovery.

Findings: There should be focused education on CPRC 4291. The Fire Safe Council or Fire District should perform evaluations for 4291 compliance. As part of the education, the public needs to understand opportunities for assistance to do hazards fuels reduction exists through the County Fire Safe Council and other programs. Since much of the private land is located in the Forest Service DPA it is not fully understood who is responsible for the 4291 inspections and how often they will be performed.

Recommendations: A CPRC 4291 compliance Inspections/education program which provides education to the landowner the role of 4291 in protecting the community, should be carried out by volunteers within the communities, or the local Fire Protection District. This volunteer program should be offered to the residence; they can deny access. This can be expanded to include visual inspection without permission and educational material left on the door of the residence. A form used by CAL FIRE (LE 100) is found in the Appendix F, Attachments, along with directions on how to implement the requirements of the law. It is recommended that the community create its own form using the LE 100 as an example for their evaluation form.

Follow up with CALFIRE of any properties not compliant is important for enforcement of the CPRC 4291.

Representative Improvements to the Defensible Space requirements

When 4291 was conceived, it was meant to keep fire from leaving the structure and entering the wildland. The revision circa 2006 was meant to do the opposite.

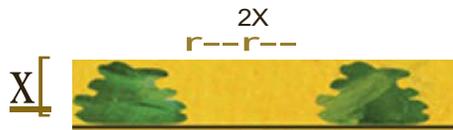
Current PRC 4291 is insufficient to prevent fire spread from vegetation to a structure. Current fire behavior indicates the distances in these diagrams should be increased by at least a factor of 1.

MINIMUM VERTICAL CLEARANCE

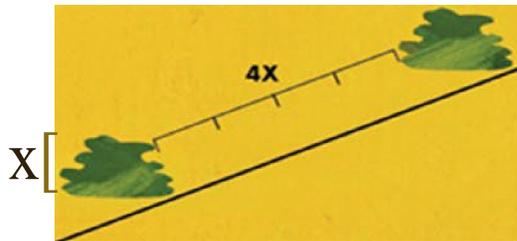


MINIMUM HORIZONTAL CLEARANCE

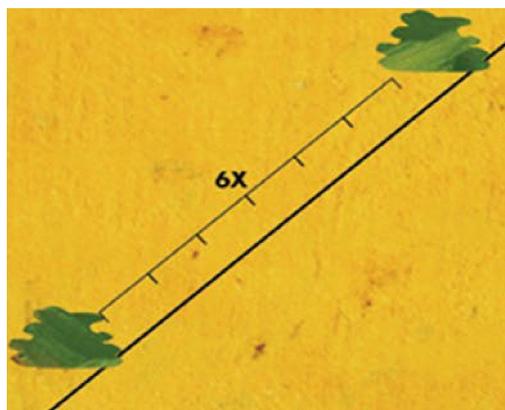
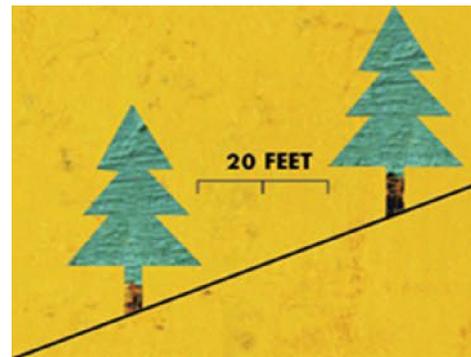
SHRUBS



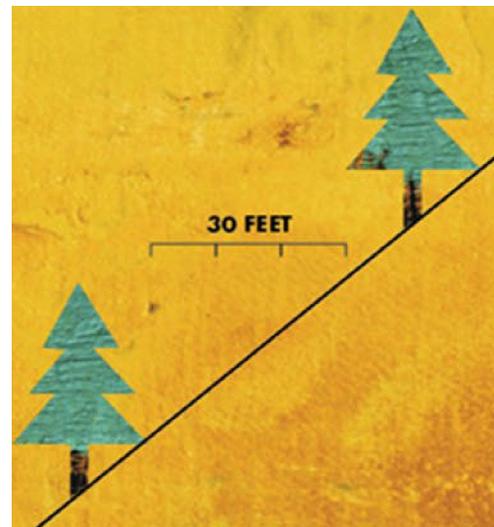
FLAT TO MILD SLOPE (LESS THAN 20%)



MILD TO MODERATE SLOPE (20% to 40%)



MODERATE TO STEEP SLOPE (GREATER THAN 40%)



Future Projects within Sierra County US Forest Service National Forest Foundation et

The following are projects and treatments proposed for future fuel hazard reduction. The US Forest Service projects are followed by projects recommended on private property to provide protection for local communities

Project Name	Agency Sponsor/ Partner Organization	Community Affected
Graveyard	National Forest Foundation (NFF)	Downieville, Pike, Alleghany, Camptonville, Forest City
Alaska Peak	Tahoe NF	Downieville, Pike, Alleghany, Camptonville, Forest City
Sleighville	National Forest Foundation (NFF)	Downieville, Pike, Alleghany, Camptonville, Forest City, Hwy49
Trapper PAC	National Forest Foundation (NFF)	Indian Creek Watershed
Trapper SFEF	National Forest Foundation (NFF)	Indian Creek Watershed
49 Aspen	Sierra County	Hwy49, Downieville, Sierra City
Yuba Deuce	National Forest Foundation (NFF)	Sierra City
Yuba Aspen Meadows	National Forest Foundation (NFF)	Calpine, Recreation Residence Communities
Hazard Tree 09 Road	National Forest Foundation (NFF)	09 Road
Church Meadow	South Yuba River Citizens League (SYRCL)	
Chapman	Tahoe NF	Sierra City
Carvin Clark	National Forest Foundation (NFF)	
Downieville Phase 0	National Forest Foundation (NFF)	Downieville
Downieville	National Forest Foundation (NFF)	Downieville
Eureka	National Forest Foundation (NFF)	Downieville
Gauntlet	Tahoe NF	Downieville
Spaulder	Tahoe NF	Downieville
Good Lava	Sierra County	Downieville
Little Fiddle	Tahoe NF	Downieville
Saddleback	Sierra County	Downieville
BigBow	Tahoe NF	Downieville
Hungry Slug	Tahoe NF	Downieville
Helm	National Forest Foundation (NFF)	Downieville, Forest City, Pike, Alleghany
Jaybird	Tahoe NF	
Galiano Meadow	South Yuba River Citizens League (SYRCL)	
Butcher Ranch	Not yet determined	
Haypress	Not yet determined	
Salmon Packer	South Yuba River Citizens League (SYRCL)	
Greene Acres	Sierra County	
Pike Magnus	Sierra Pacific Industries (SPI)	Downieville, Forest City, Pike, Alleghany
Catan Fuelbreak	Tahoe NF	Sierra City, Sierraville
Keystone Fuelbreak	Tahoe NF	Downieville, Forest City, Pike, Alleghany
49er Gold Fuel Break	Tahoe NF	Downieville, Sierra City, Bassetts
Hasekll Peak Meadows	South Yuba River Citizens League (SYRCL)	
Upper Middle Yuba	Tahoe NF	
Goodyear's Bar	National Forest Foundation (NFF)	Goodyear's Bar, Downieville
Rattlesnake Skinner Remaining	Not yet determined	
TBDIRA1	Not yet determined	
TBDNFF001	National Forest Foundation (NFF)	
Bonta	National Forest Foundation (NFF)	Sierraville
Cold Creek	National Forest Foundation (NFF)	Sierraville
Doubloon	Tahoe Forest Products	Sierraville
Sayles	Truckee River Watershed Council	Sierra Brooks, Loyalton
Antelope Valley WUI	Sierra County Fire Safe Council	Sierra Brooks, Loyalton
Smithneck WUI	Sierra County RCD	Sierra Brooks, Loyalton
Fletcher	Tahoe NF	Calpine

Quail Reoffer	Tahoe NF	Sierraville
Upper Middle Yuba	Nevada Irrigation District	
Ladybug	National Forest Foundation (NFF)	
Truckee Roadside Fuels	Nevada County	
Sierraville Roadside Fuels	Tahoe NF	Sierraville, Calpine, Sierra Brooks, Loyalton
Saddle NW	Tahoe NF	Calpine
Sierraville WUI Mastication (Randolph)	National Forest Foundation (NFF)	Sierraville
Calpine/Sattley Rx	Tahoe NF	Calpine
Summit North Rx	Tahoe NF	
Mill Fire Restoration	Tahoe NF	Calpine
Bear Fire Restoration	Tahoe NF	Sierra Brooks, Loyalton
Wheeler	Truckee River Watershed Council	Sierra Brooks, Loyalton
Cottonwood Restoration	Tahoe NF	Sierra Brooks, Loyalton

US Forest Service and National Forest Foundation Projects, Blue Forest Organization and The Yuba Water Agency along with other local community organizations

The US Forest Service has developed a list of future fuel. All of these projects are in various stages of planning and implementation for further clarification contact with the Yuba Ranger District. The map figure 12 shows the locations of the Yuba District Projects that could influence projects within Sierra County

The USFS is the largest landowner in Sierra County and has the responsibility for the wildfire protection for the wildland. The two western thirds of the county have been designated as the North Yuba Forest Partnership

“The North Yuba Forest Partnership is a diverse group of nine organizations passionate about forest health and the resilience of the North Yuba River watershed. Together, the partners are working on an unprecedented scale to collaboratively plan, analyze, finance, and implement forest restoration across 275,000 acres of the watershed.

Through ecologically based thinning and prescribed fire, the partnership seeks to protect North Yuba communities from the threat of catastrophic wildfire and restore the watershed to a healthier, more resilient state. Restoration efforts are expected to take many years, if not decades to complete, with the most critical project areas targeted first, i.e. at-risk communities, emergency response, evacuation access routes, and treatments to areas that have the potential to stop a wildfire from spreading.

The North Yuba watershed stretches from New Bullards Bar Reservoir east up to the Sierra Crest along Highway 49. The Landscape is approximately 313,000 acres, of which approximately 210,000 acres are National Forest System lands within Sierra County, with just the westernmost

portions of the project area in Yuba County. The area includes thousands of acres of forest habitat, is an important source of water to downstream users, supports high biodiversity, is home to many communities, and offers excellent opportunities for recreation.”

<https://www.yubaforest.org/>

The Forest Service and the National Forest foundation have been creating a number of projects with its cooperators in the communities located in the Yuba River Watershed. Many of these projects that directly affect the Sierra County communities are listed .

The National Forest Foundation is “The National Forest Foundation, chartered by Congress, engages Americans in community-based and national programs that promote the health and public enjoyment of the 193-million-acre National Forest System, and administers private gifts of funds and land for the benefit of the National Forests.”

<https://www.nationalforests.org/>

“**The Yuba Project** is a 14,545-acre project in Sierra County that encompasses National Forest system lands. The Yuba project is a collaborative project between the National Forest Foundation, the [Tahoe National Forest](#), the [Yuba Water Agency](#), and [Blue Forest Conservation](#). The National Forest Foundation has taken lead on implementing projects on approximately 5,690 of these acres. Treatments are proposed to enhance watershed health through improving forest health and resilience to changing climatic conditions, reducing surface and ladder fuels to a level that would allow safe fire suppression, and improving wildlife habitat.”

<https://www.nationalforests.org/regional-programs/sierra-nevada-program/the-yuba-project>

The Blue Forest Organization

“Brings people, finance, and science together to restore and protect our forests, watersheds, ecosystems, and communities.

Blue Forest partnerships with investors, land managers, non-profits, Native Nations, private companies, and the public sector. We catalyze the funds and partners needed to make restoration projects happen. We free up capital to start the work as quickly as possible. And we measure, quantify, and evaluate the results.”

<https://www.blueforest.org/our-impact/our-projects/yuba-ii-frb/>

North Yuba Water agency

<https://www.yubawater.org/317/North-Yuba-Forest-Partnership>

The [North Yuba Forest Partnership](#) is a diverse group of nine organizations passionate about forest health and the resilience of the North Yuba River watershed. Together, the partners are working on an unprecedented scale to collaboratively plan, analyze, finance and implement forest restoration across 275,000 acres of the watershed.

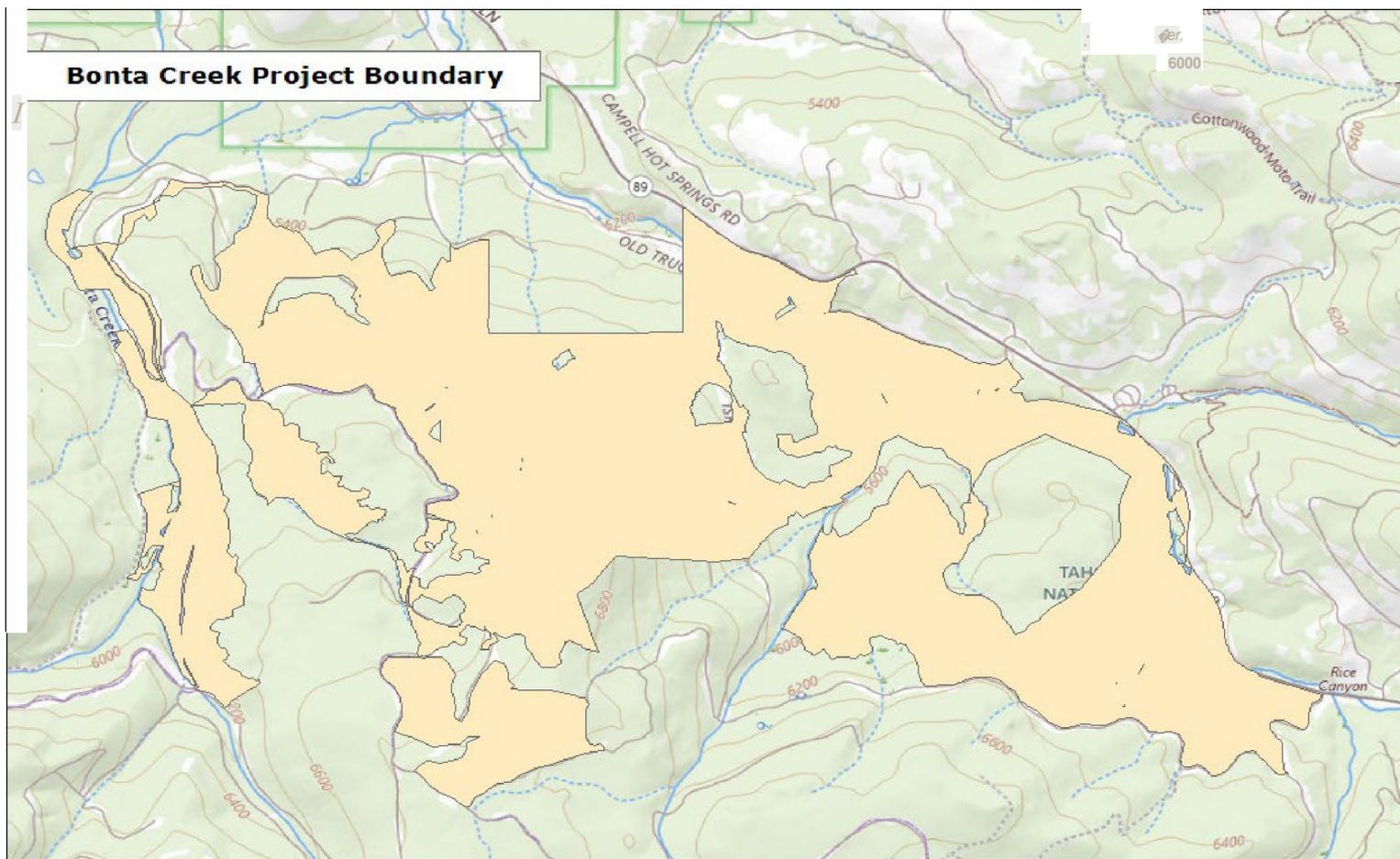
The partnership includes Yuba Water Agency, the [U.S. Forest Service](#), [The Nature Conservancy](#), [South Yuba River Citizens League](#), [Camptonville Community Partnership](#), [Nevada City Rancheria Nisenan Tribe](#), [National Forest Foundation](#), [Sierra County](#), and [Blue Forest](#).

Sierra County Projects					
Project Name	Agency Sponsor	Community Affected	Acreage	Status	Year
Bonta Creek Project	National Forest Foundation NFF	Sierraville		NEPA completed	
Downieville Planning Projects	NFF US Forest Service	Downieville			
Eureka Planning Units	Tahoe NF				
Forty-niner Gold Fuel Breaks	Tahoe NF				
Graveyard Project	Tahoe NF				
Mtn House Proposal	Sierra County				
Pike Mangus Two Trails					
Pliocene Ridge Fuel Breaks	Tahoe NF	Pike, Allegany and Downieville			
Proposed Mangus THP Fuel break	Tahoe NF				
Sleighville	NFF	Hwy 49			
Trapper	UC Merced	Pike Campenville			
Trapper PC	Tahoe NF	Indian Creek Watershed			
Sierraville Fuels Reduction Project	Sierra County Fire Safe Council	Sierraville, Randolph , and Campbell Hot Springs			

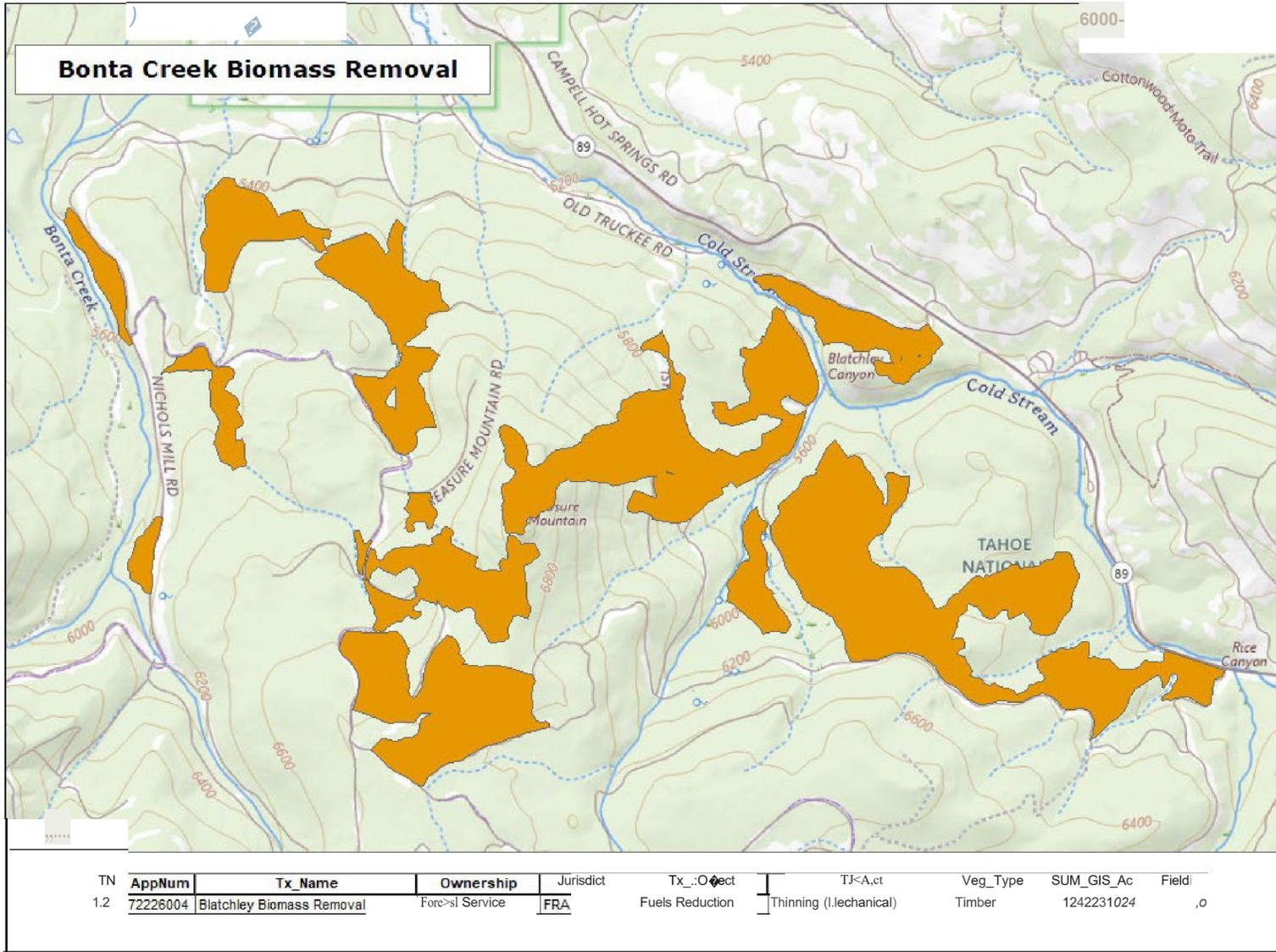
Sierra Sattley Fuels Reduction Porject	Sierra County Fire Safe Council (SCFSC)	Sierra City and Sattley			
Sierraville WUI Project	Sierra County FSC	Randolph and Sierraville			
Smithneck WUI	Sierra County FSC	Loyalton Sierra Brooks			
Upper North Yuba Forest Resilience Project	Tahoe NF and Sierra County FSC	Protect major HWY			
Green Acres Project	SCFSC and Tahoe NF	Bassetts			
RFFCP Treatments	SCFSC	Pike and Allegany			
Good Lava	SCFSC				
Sierra County 2015 Projects Not completed					
Project name	Agency responsible	Community		Status	
Verdi	Humbolt Toiyabe NF	Verdi		Unknown	
Sierra Valley 1	Sierra County			Planning Funded	
SV2	Sierra County			Completed	
SV3	Sierra County			Planning Funded	
SV4	Sierra County			Planning Funded	

SV5	Sierra County			Planning Funded	
ST 1	Sierra County			Half Completed	
Sierra City 3 &4	Sierra County			In Planning	
Pike 1, 2, 3	Sierra County			Not completed	
Downieville 1, 2,				Part of North Yuba	

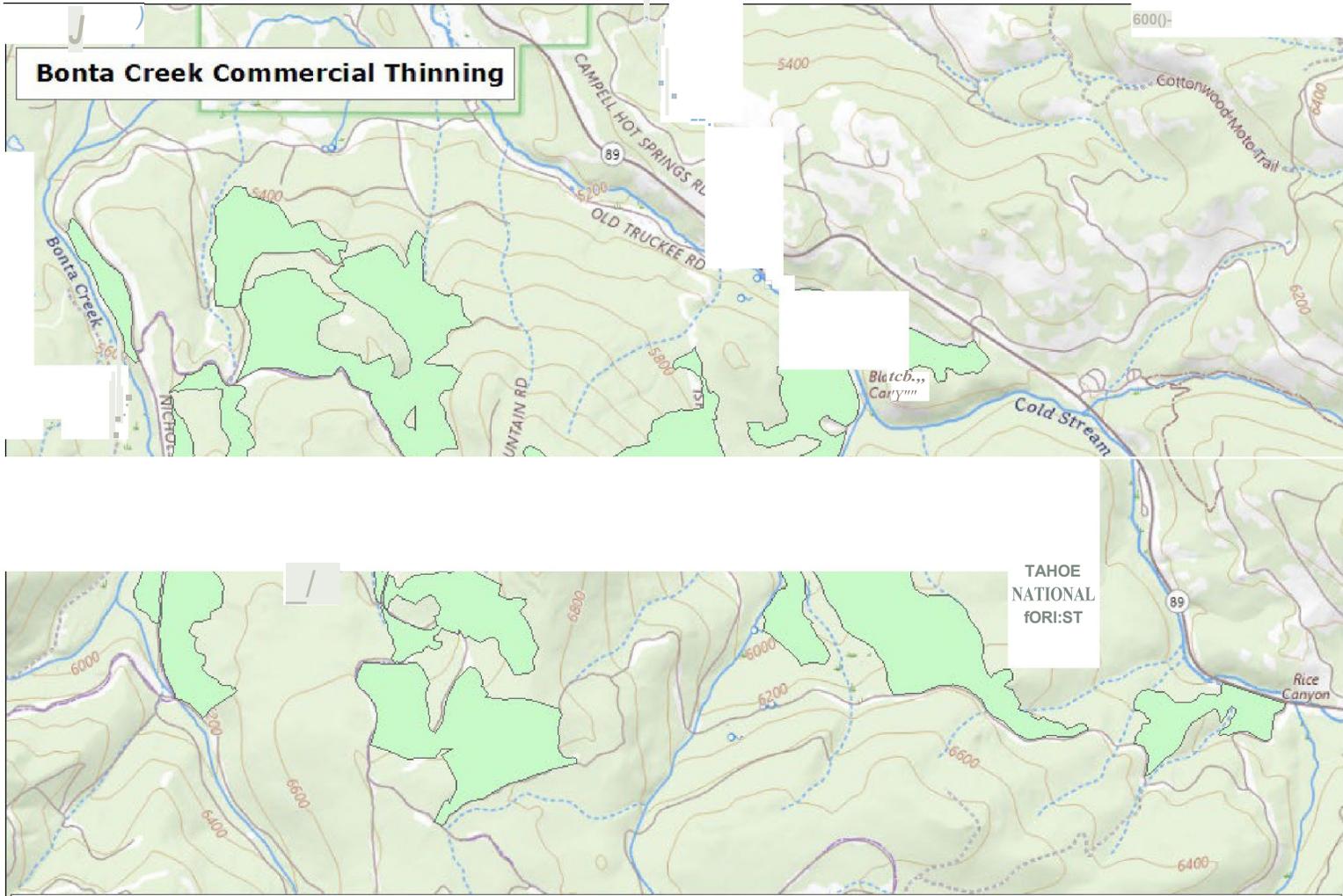
The following Maps are of the projects currently in the process of planning By the Tahoe National Forest



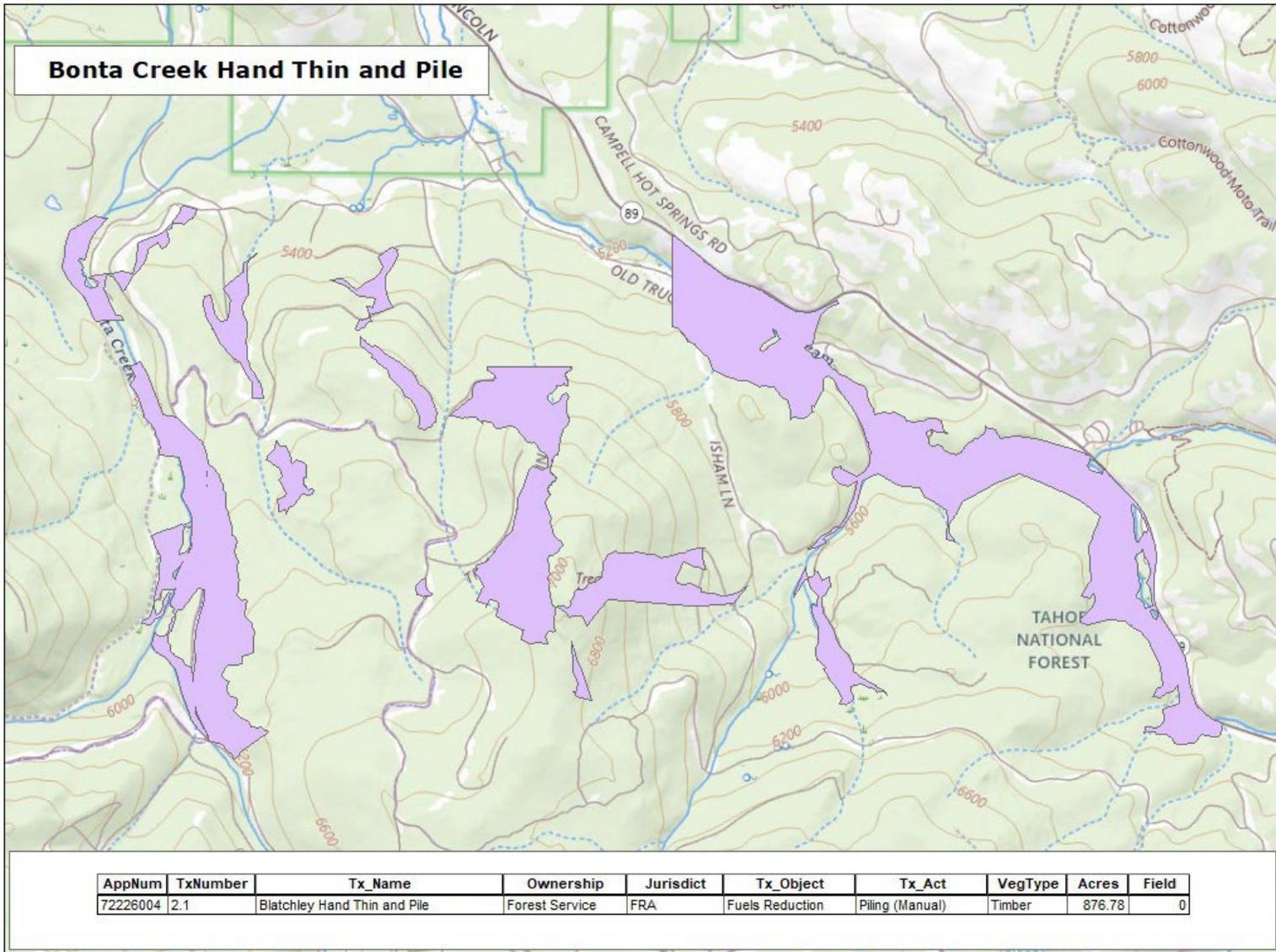
FID	Shape	Dissolve	AppNumber	Proj Name	Grantee	Acres
	D Polygon	1	72226004	Blatchley Forest Health Project - Phase 1	National Forest Foundation	2732.54

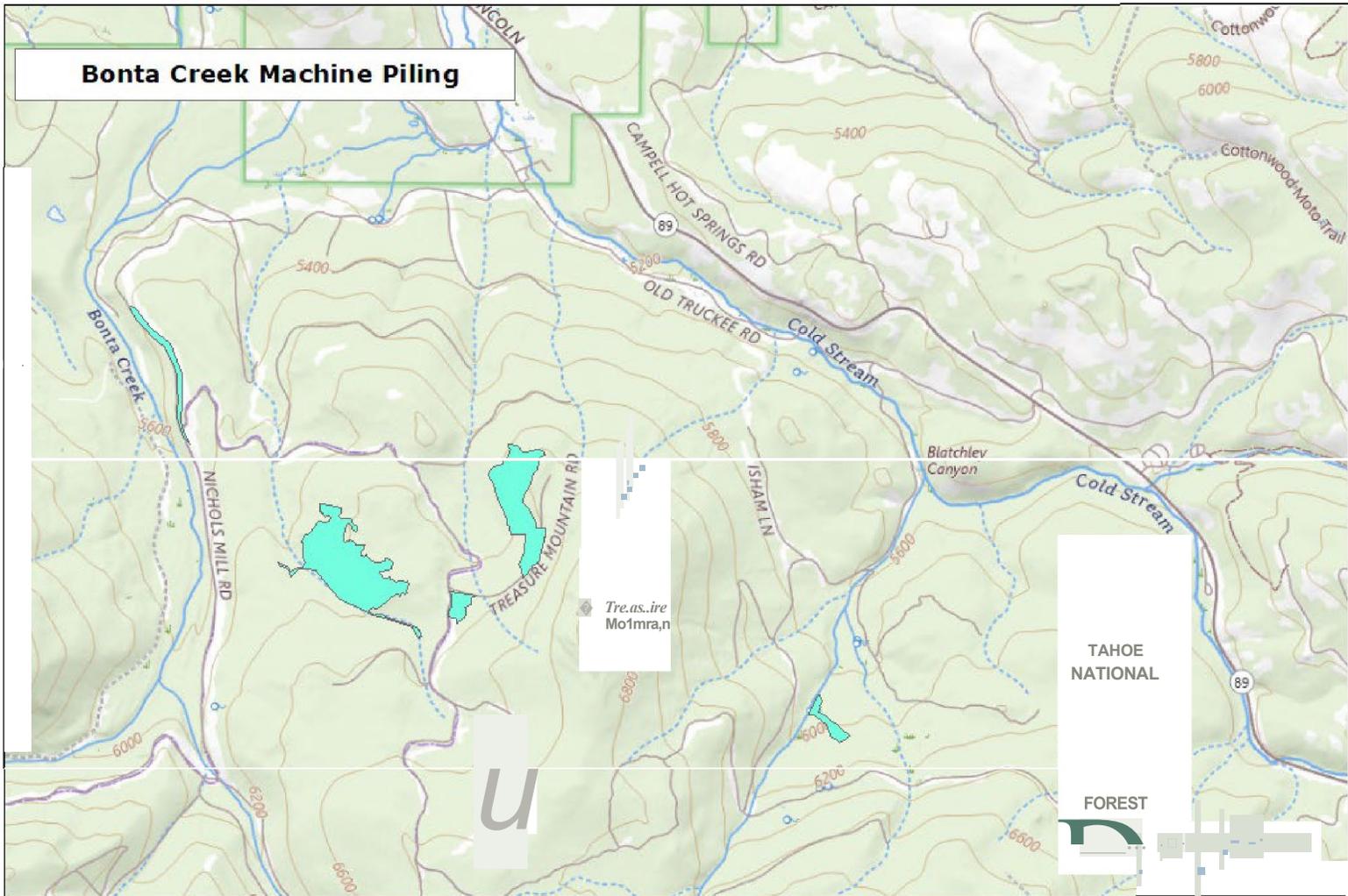


TN	AppNum	Tx_Name	Ownership	Jurisdic	Tx_...Oject	TJ<A,ct	Veg_Type	SUM_GIS_Ac	Field
1.2	72226004	Blatchley Biomass Removal	Fore>sl Service	<u>FRA</u>	Fuels Reduction	Thinning (l,lechanical)	Timber	1242231024	,o

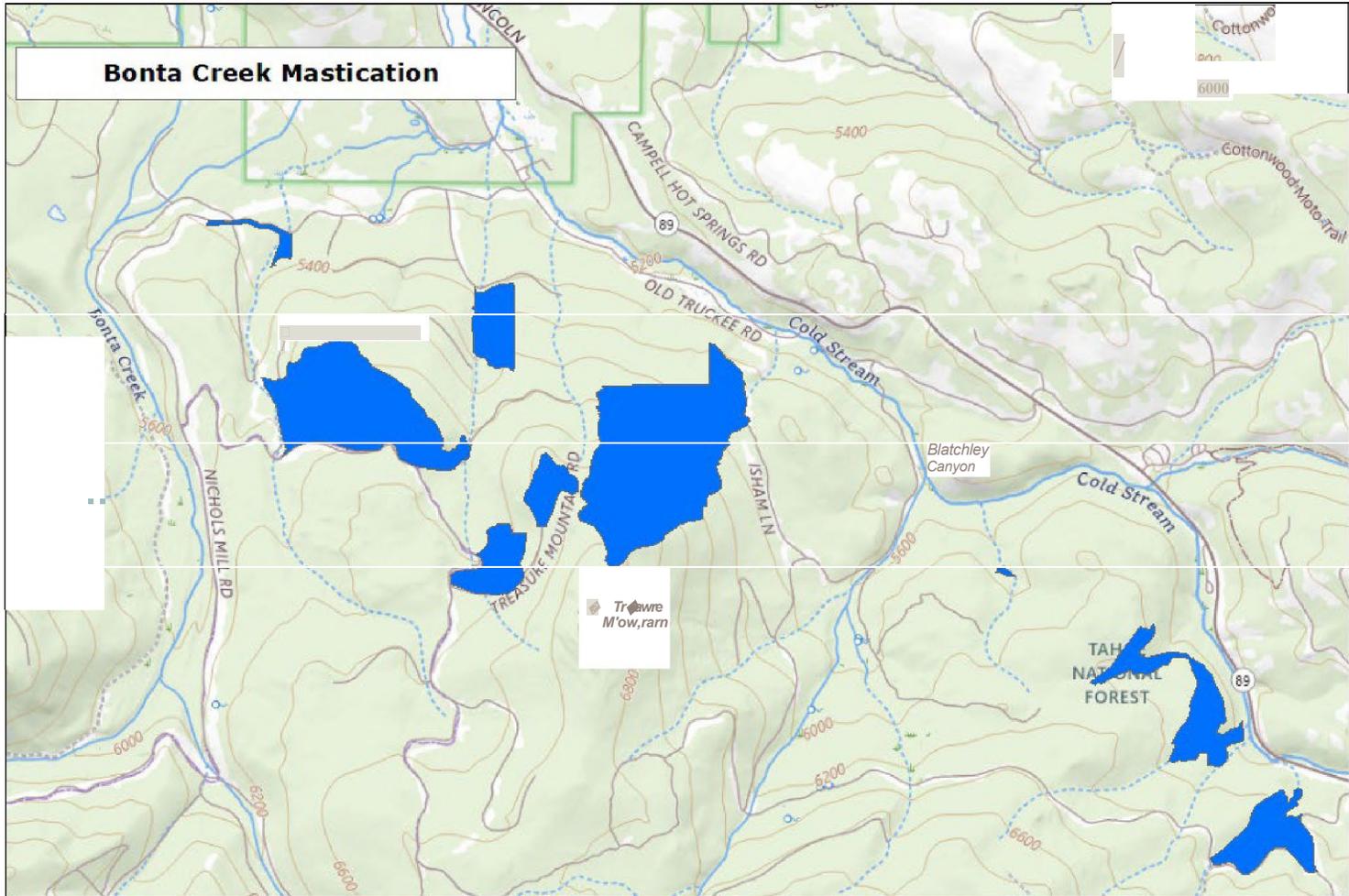


TN	AppNum	Tx Name	Ownership	Juisdict	Tx Objed	TxAd	Veg Type	SUM GIS Ac
1.1	72:226004	Blatchley Overstory Forest Health Improvement	Forest Service	FRA	Fuels Reduction	Commercial Thinning (Tractor Yarding)	Timber	1246.52456

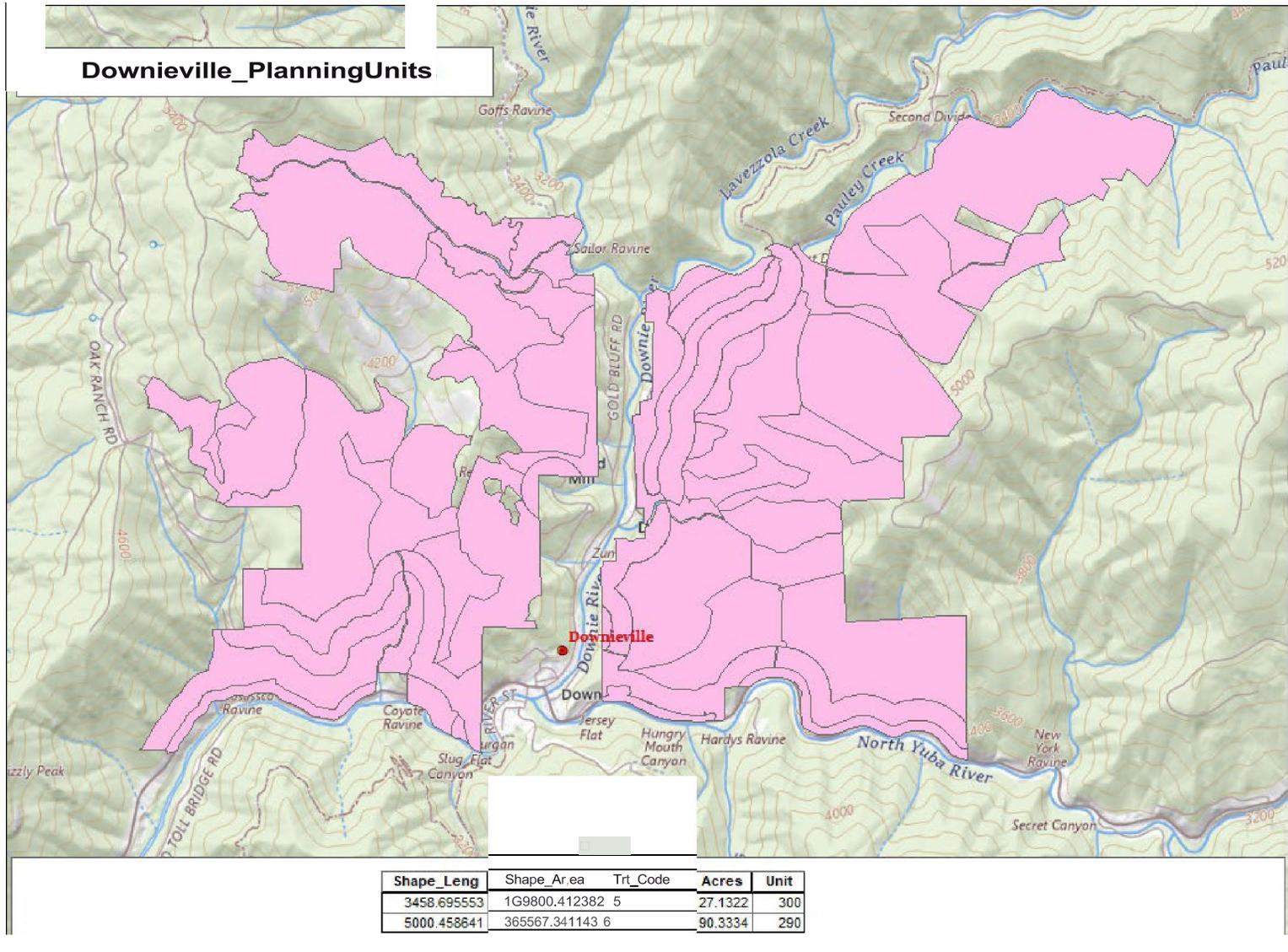


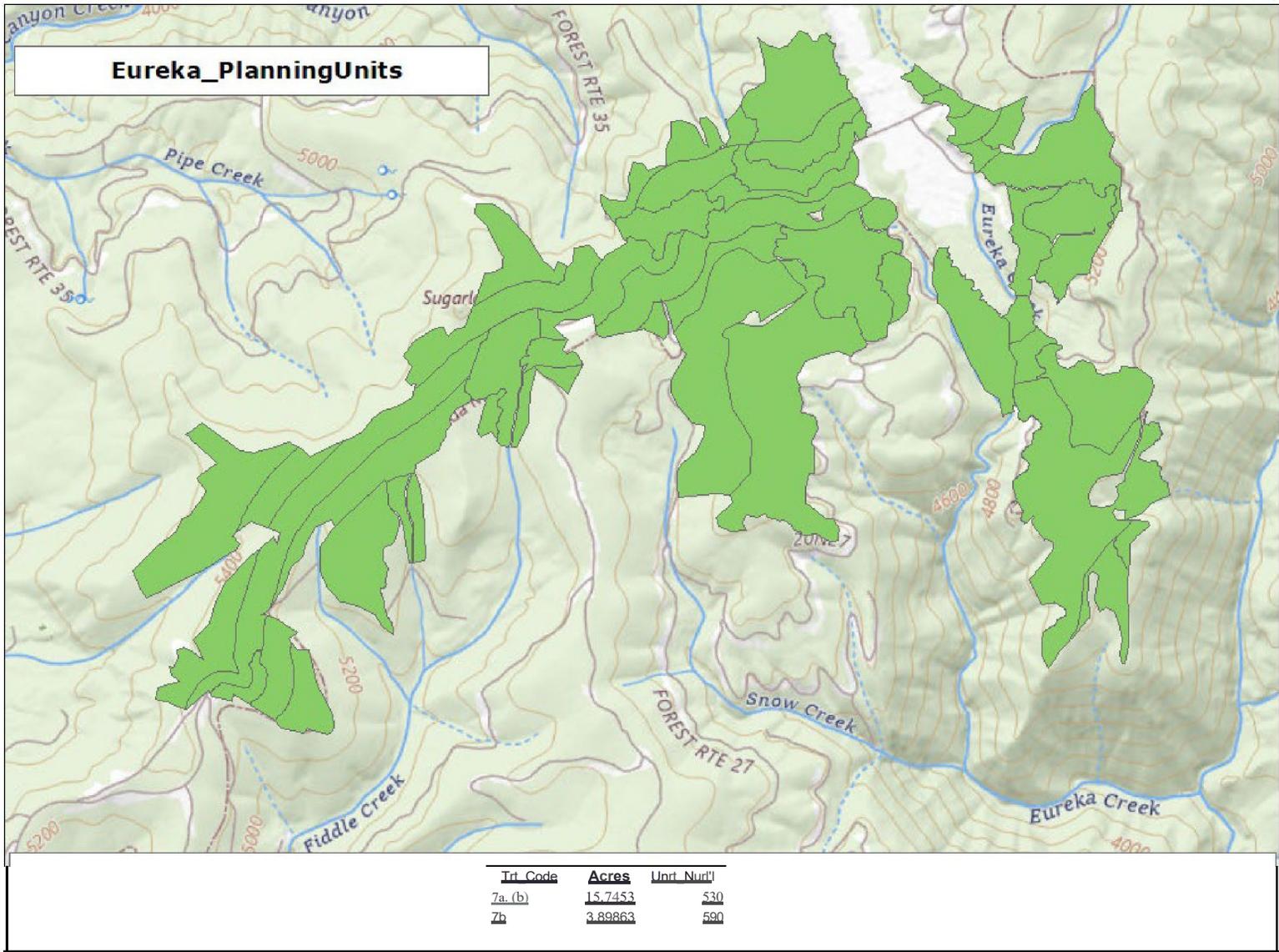


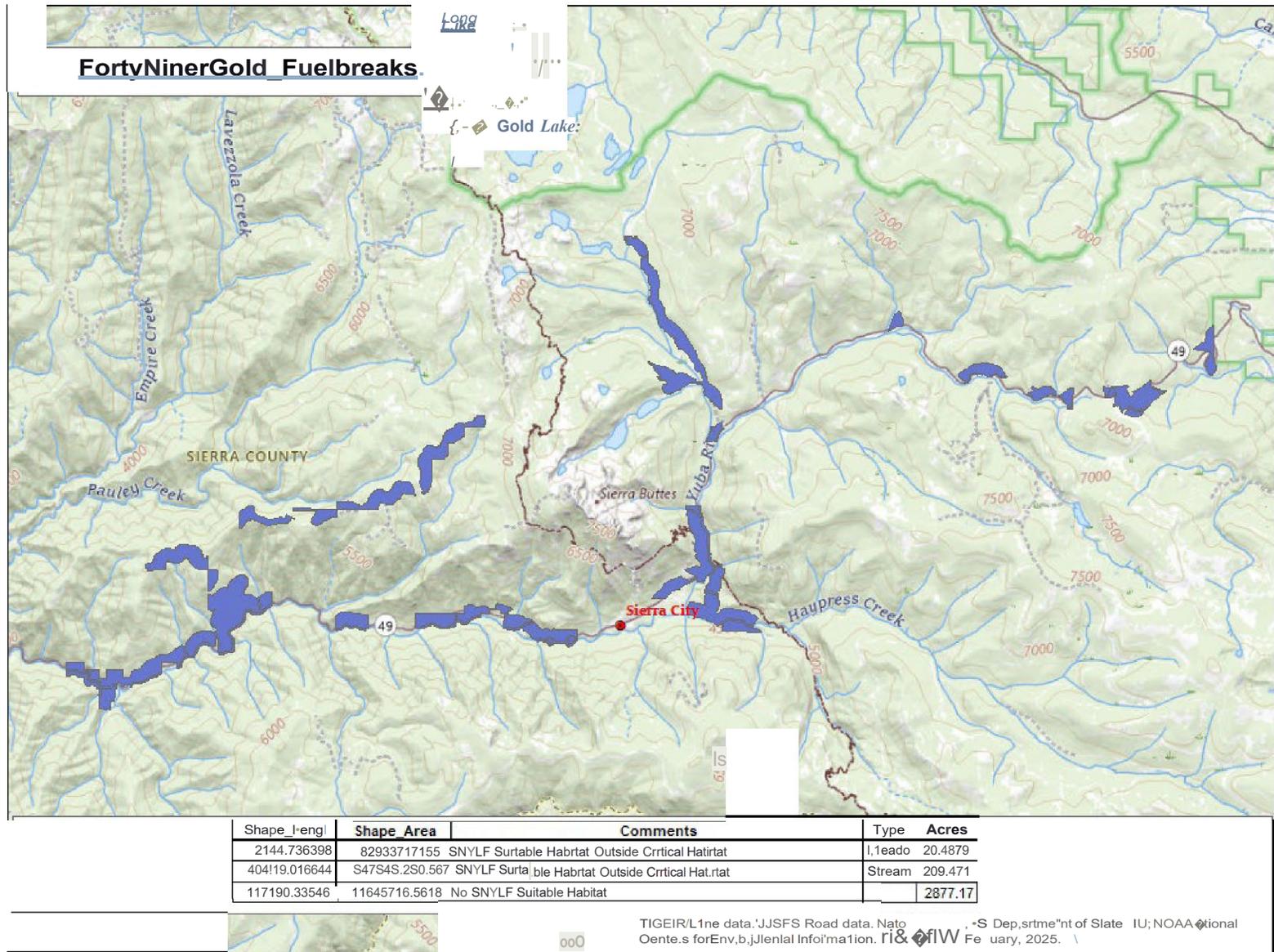
TN	AppNum	Tx_Name	Ownership	Jurisdct	Tx_...Object	T:<Act	Veg_Type	SUM_GIS_A,c	Field
2.3	72226004	Blatchly Machine Piling	Forest Service	FRA	Fuels Reduction	Piling (Mechanical)	Timber	143.006317	0

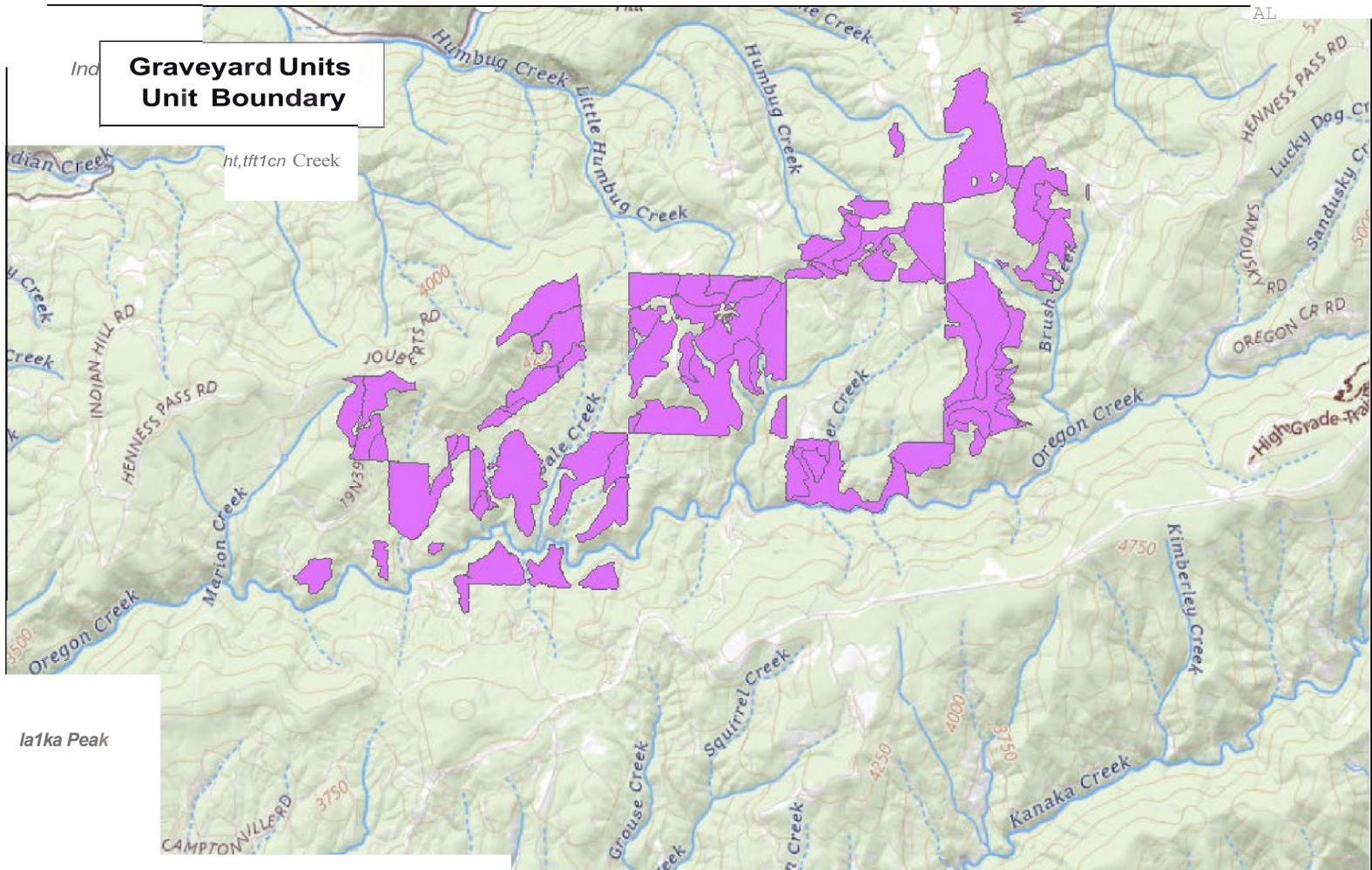


TN	AppNum	Ownership	Jurisdicti	Tx_Obj	VeType	Acres	Shape_Leng	Shape_Area	TxActivity	TxName	Field
2.1	72228004	Forest Service	FR'A	Fuels Reduction	Timber	464.517	26141.5778	3165575.87075	Mastication	Blatchley Mastication	





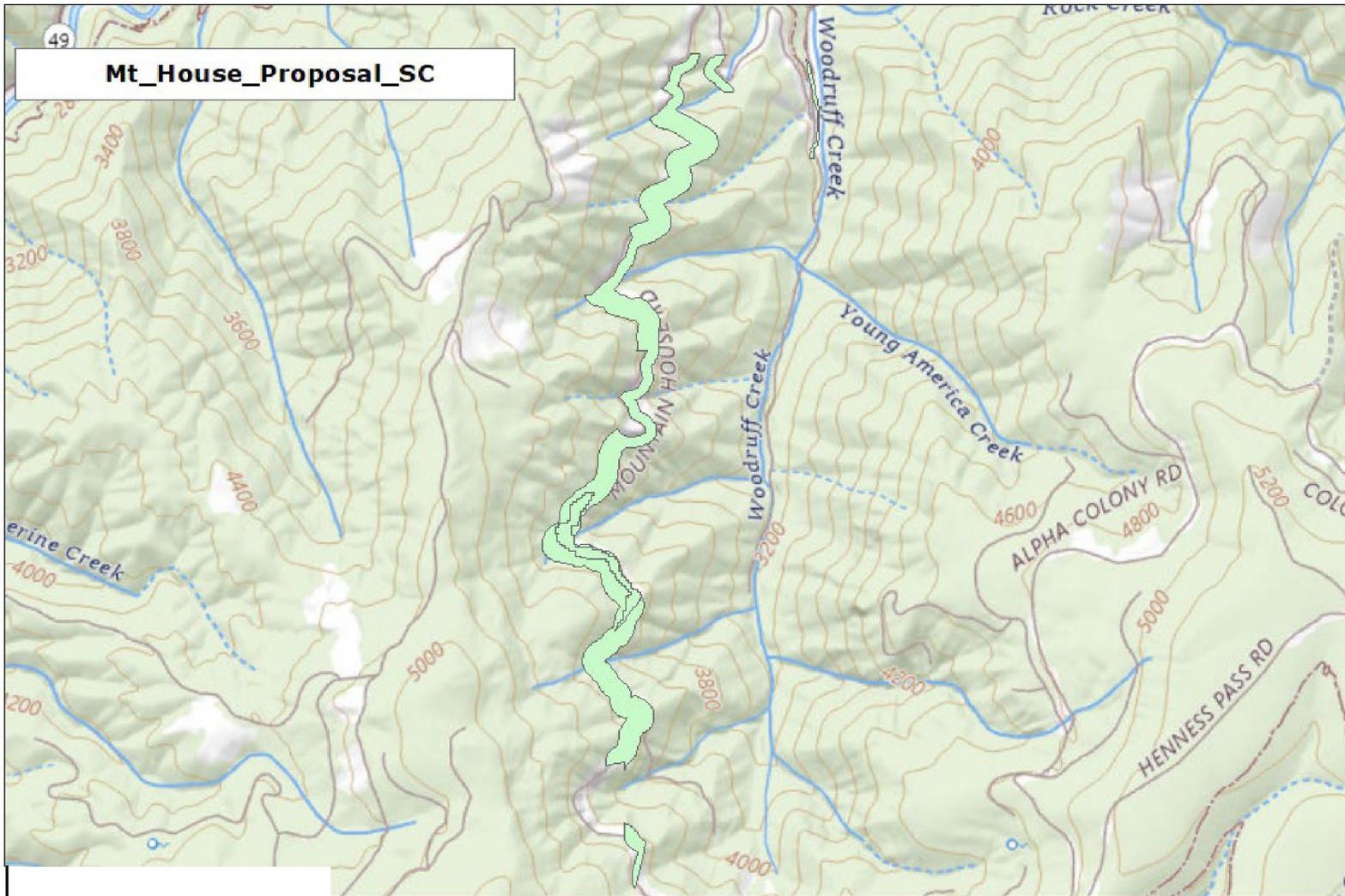




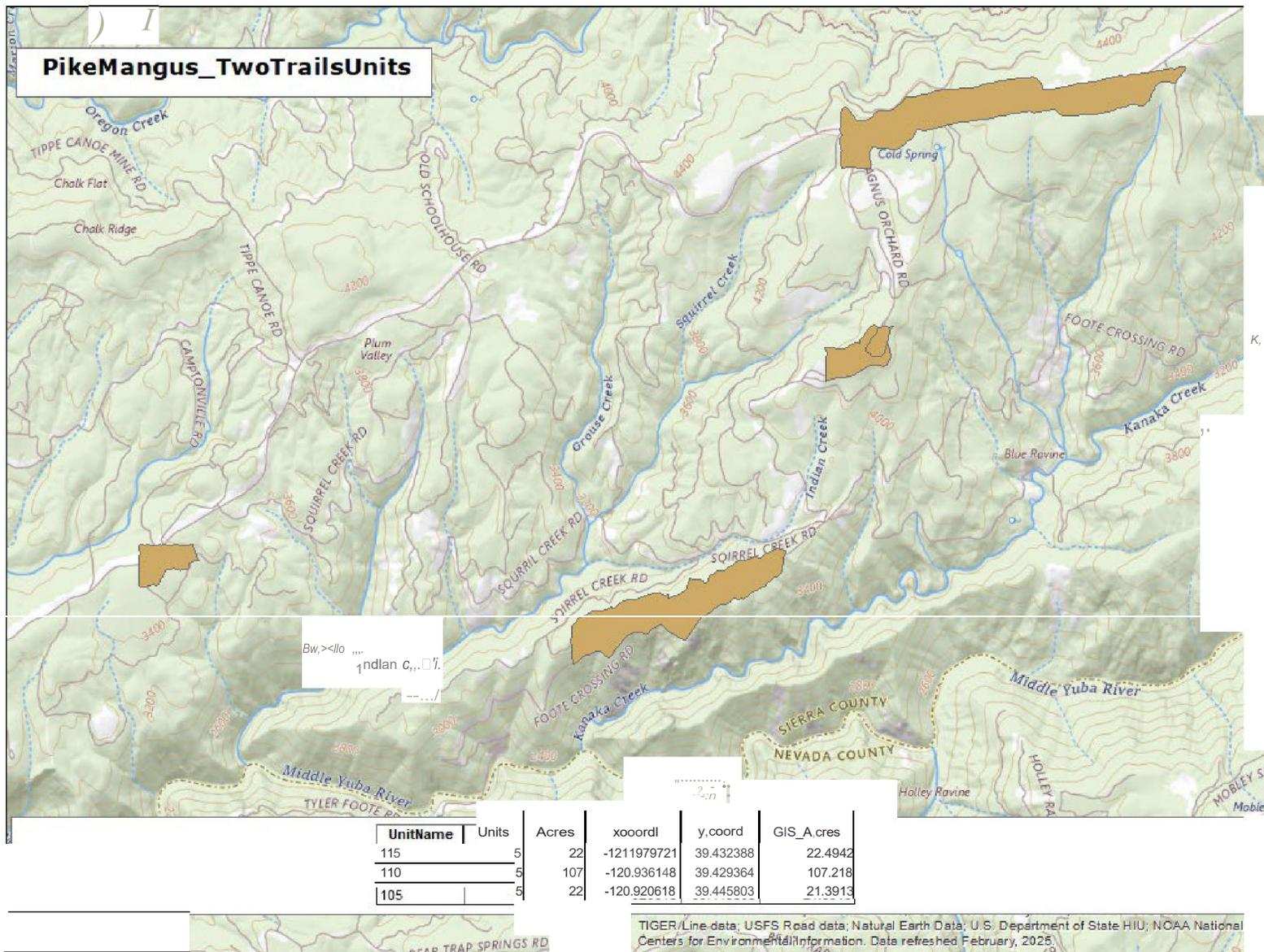
Unit	Notes	Acres	Cutting1_De	Fuels_Unit	Fuels_Trt	Prescr_Oes
163		D.943211	Tractor ITM	N		Mornd Conifer
127		5.111139	Tractor PlantatiDn	N		Plantation
122	slope up to 4D%	57.916298	Tractor PlantatiDn	Y	Remove to landing	Plantation



TIGER/Line data, USFS Road data, Natural Earth Data, U.S. Department of State Hitt; NOAA National Centers for Environmental Information. Data Refreshed February, 2025.



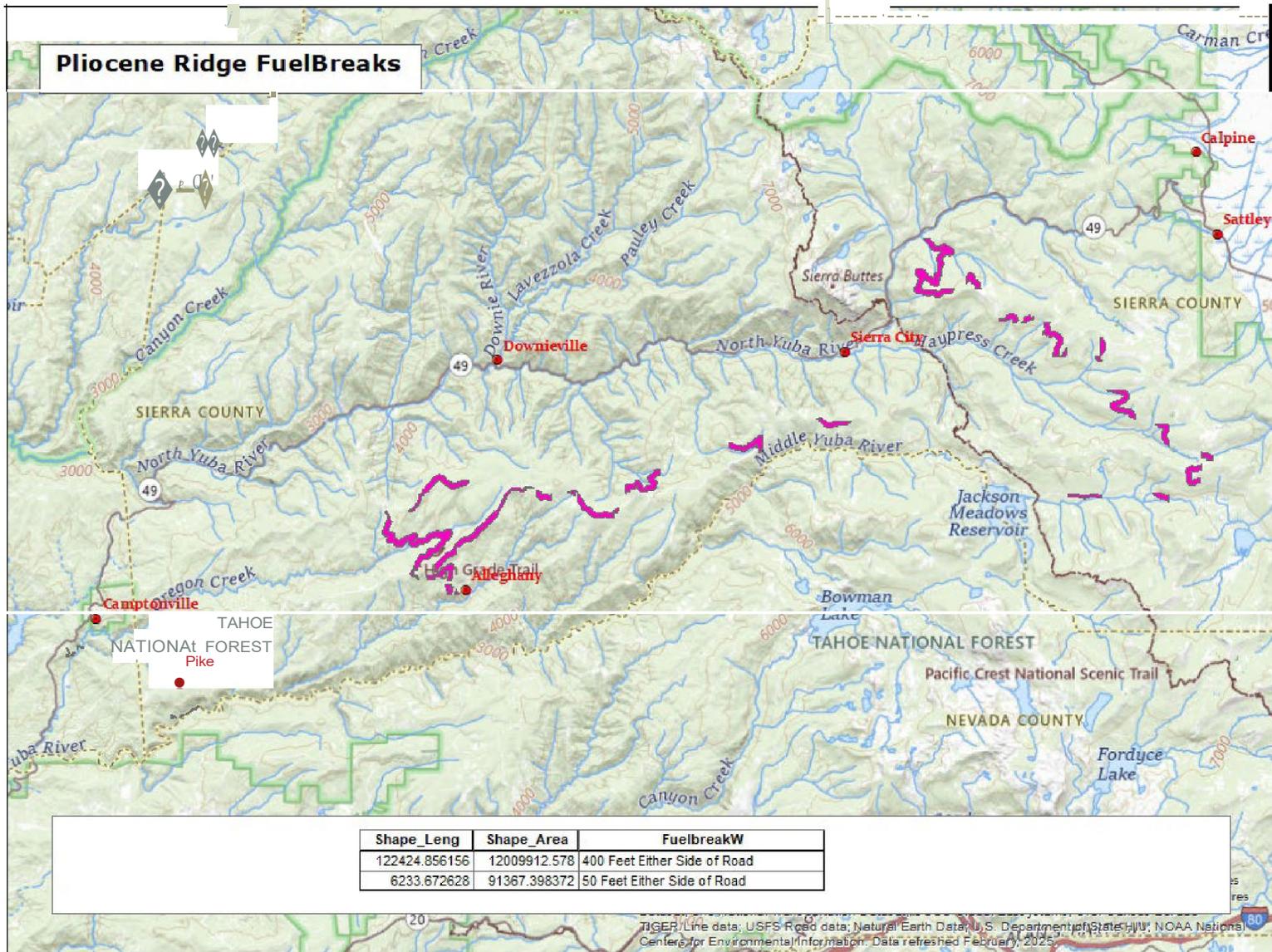
A,cres	NOTES	WUI_Zone	Owner	Pr. oposed_T	Secondary_	NewUnitNum	PrimaryTre
82.6043	Roadside Thin, CWPPE.sc./Rte, Threat Zone	Defense Zone	Fuels	HC/HP/MP/PB/Mast/Chip/LPS/UB	UB	R29	Fuels Treatments
2.58132	Roadside Thin, CWPPEsc./Rte, Threat Zone	Threat Zone	Fuels	HC/HP/MP/PB/1, last/Chip/LPS/UB	UB	R26	Fuels Treatments
3.9006	Roadside Thin, CWPPEsc./Rte, Threat Zone	Threat Zone	Fuels	HC/HP/1.P1/PB/Mas ti Chip/LPS/UB	UB	R27	Fuels Treatments

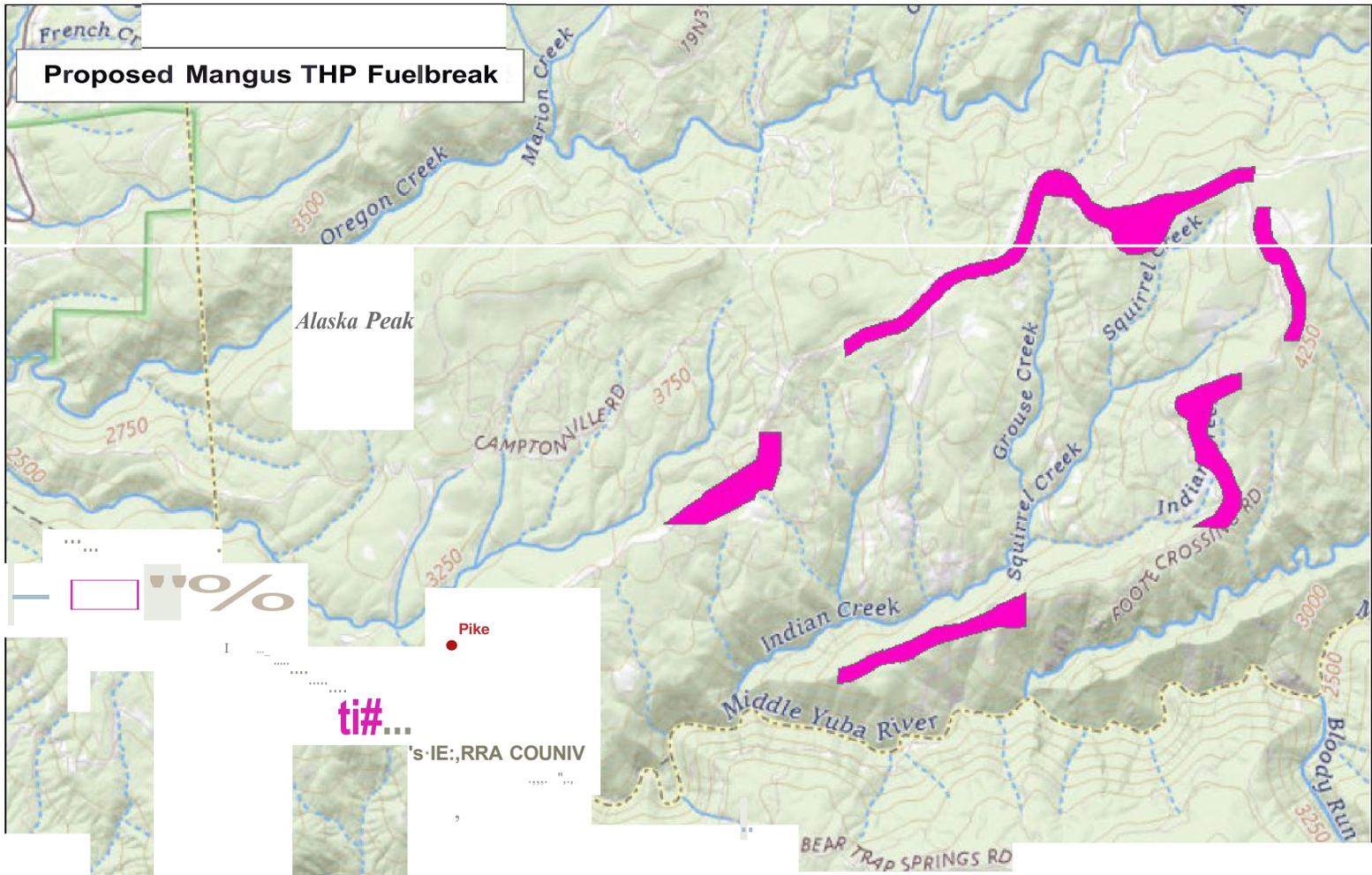


PikeMangus_TwoTrailsUnits

UnitName	Units	Acres	x,coord	y,coord	GIS_A,acres
115	5	22	-1211979721	39.432388	22.4942
110	5	107	-120.936148	39.429364	107.218
105	5	22	-120.920618	39.445803	21.3913

TIGER/Line data; USFS Road data; Natural Earth Data; U.S. Department of State HUI; NOAA National Centers for Environmental Information. Data refreshed February, 2025.

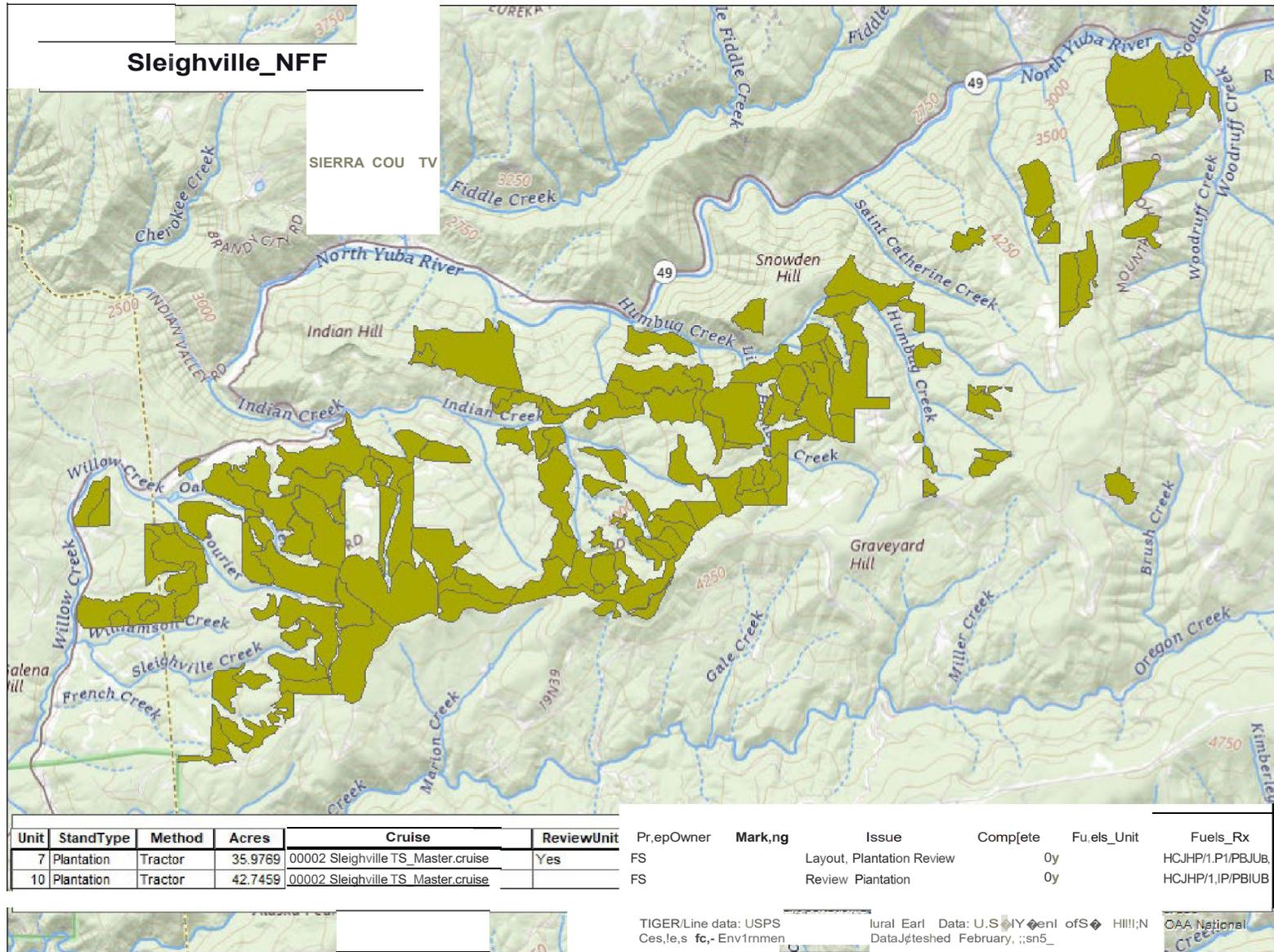




FID	Shape	MO (ID)	SE (I)	CREATED	EDITED	LSELECTED	UNK	LABEL
0	Polyg:on	1	JOKI ;,JROL051L	(H)06/2019	OB/06/2019	0		
1	Polygmn	2	JOKI ;,JROL051Q	OB/06/2019	OB/06/2019	0		
2	Polyg:on	3	JOKI ;,JROL051R	OB/06/2019	OB/06/2019	0		



TIGER/Line data provided by the U.S. Department of State, U.S. Geological Survey, and U.S. Environmental Protection Agency. Data refreshed February, 21/25.



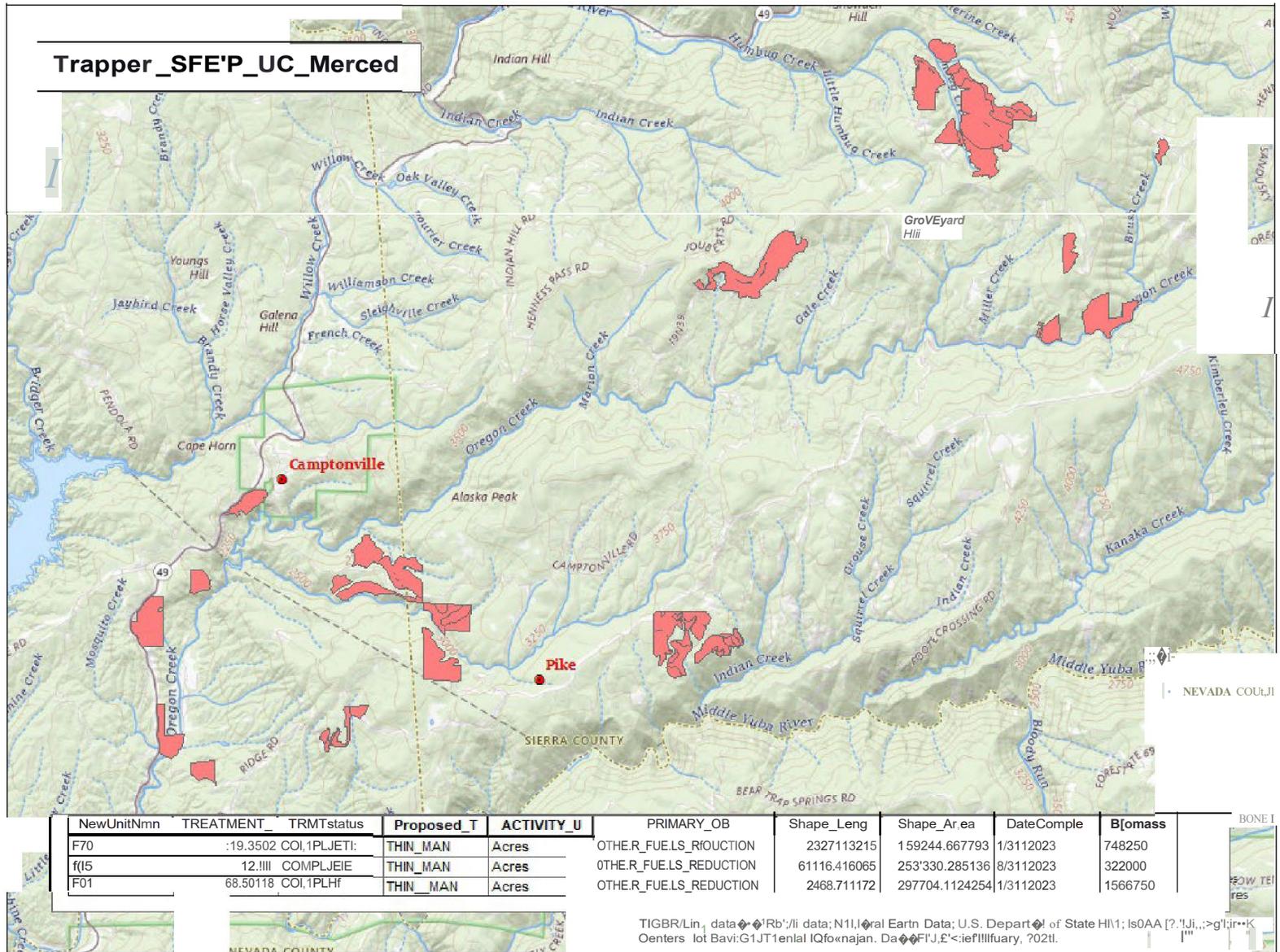
Sleightville_NFF

SIERRA COU TV

Unit	StandType	Method	Acres	Cruise	ReviewUnit
7	Plantation	Tractor	35.9769	00002 Sleightville.TS_Master.cruise	Yes
10	Plantation	Tractor	42.7459	00002 Sleightville.TS_Master.cruise	

Pr,epOwner	Mark,ng	Issue	Complete	Fu,els_Unit	Fuels_Rx
FS		Layout, Plantation Review	0y		HCJHP/1,P1/PBJUB,
FS		Review Plantation	0y		HCJHP/1,IP/PBIUB

TIGER/Line data: USPS
 Ces,le,s fc,- Env1rmmen
 lural Earl Data: U.S. OY enl of S HIII;N
 DataJtreshed February, ;sn5_
 OAA National
 Cree

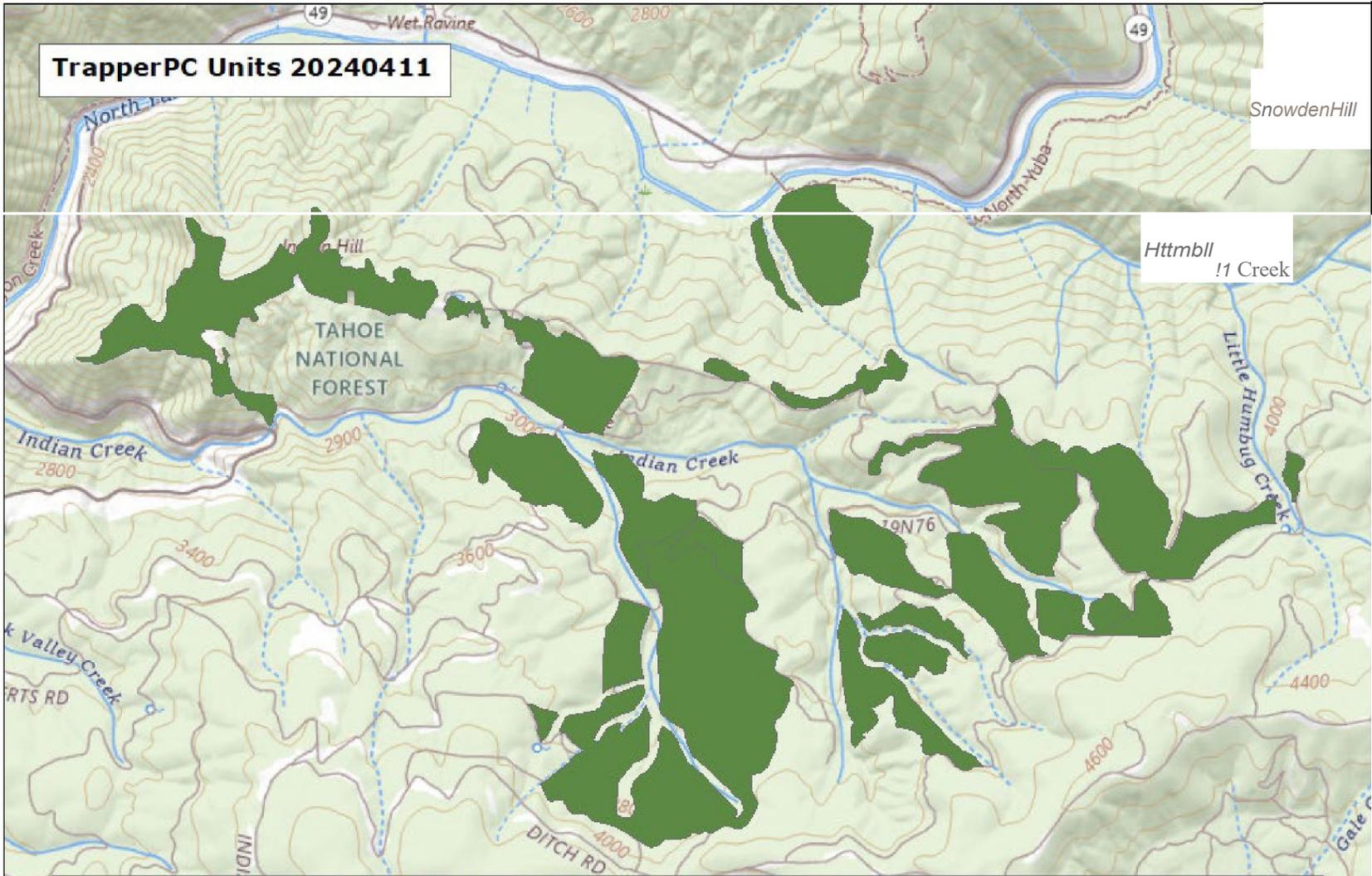


Trapper_SFE'P_UC_Merced

NewUnitNm	TREATMENT_	TRMTstatus	Proposed_T	ACTIVITY_U
F70	:19,3502	COI,1PLJETI	THIN_MAN	Acres
f(15	12.1111	COMPLJEIE	THIN_MAN	Acres
F01	68.50118	COI,1PLHF	THIN_MAN	Acres

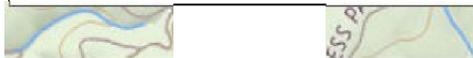
PRIMARY_OB	Shape_Leng	Shape_Ar ea	DateComple	B[omass
OTHE_R_FUE.LS_RI0DUCTION	23271.13215	159244.667793	1/3112023	748250
OTHE_R_FUE.LS_REDUCTION	61116.416065	253'330.285136	8/3112023	322000
OTHE_R_FUE.LS_REDUCTION	2468.711172	297704.1124254	1/3112023	1566750

TIGBR/Lin_ data ♦♦'Rb'/li data:N11,1♦al Earth Data; U.S. Depart♦ of State H11; IS0AA [?.'Ji,;.>g'lir♦♦K
Centers lot Bavi:G1JT1en1al IQfoxnajan. Da♦♦F'I,J,E'<:ief'l'lllfluary, 2021l.

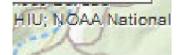


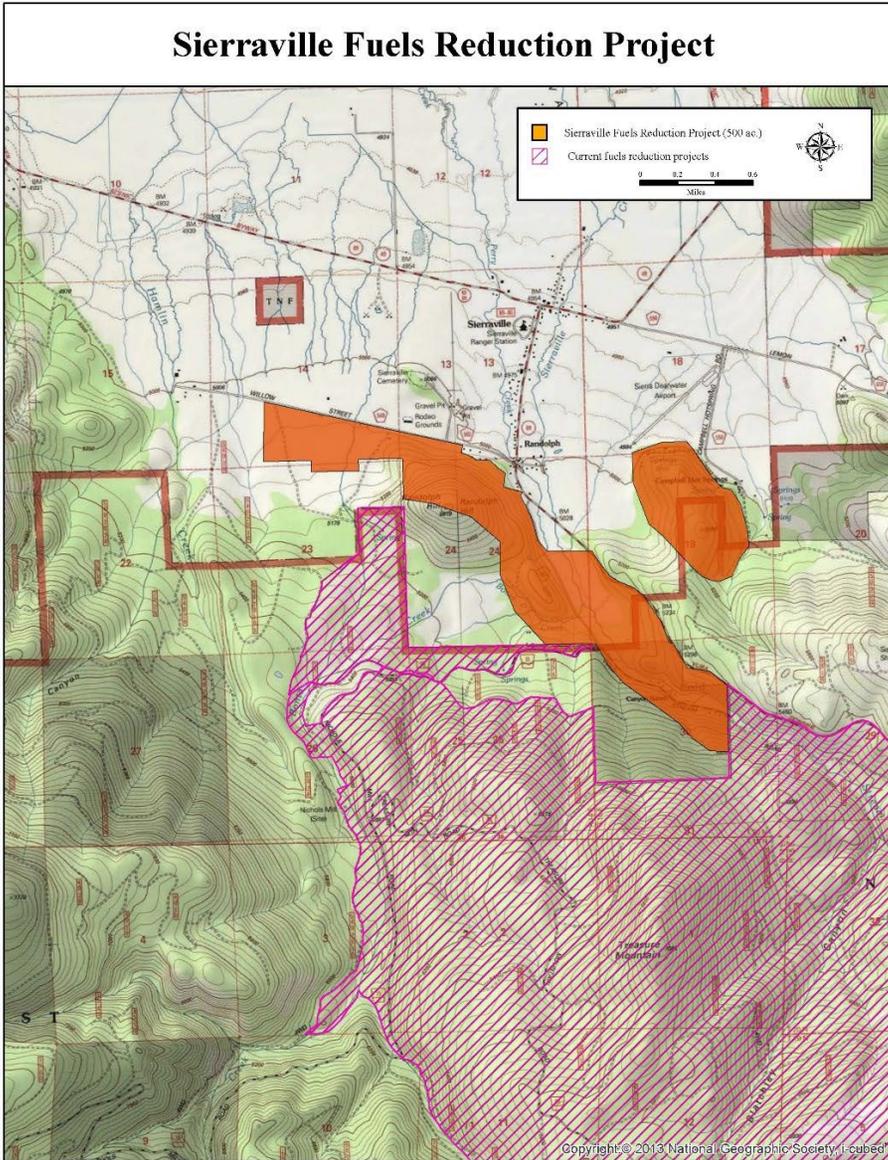
NewUnitNurn	Shape Lcngl	Shape Le 11	Shape Area	A,cr.es
159	2159.7693;8	2159.7693;8	122507.434	30.272113
F20	8140.0795	8140.0795	4,8733.599771	113.355088
F28	10684.1()4073	10684.1()4073	10()1828.30356	247.556175

res

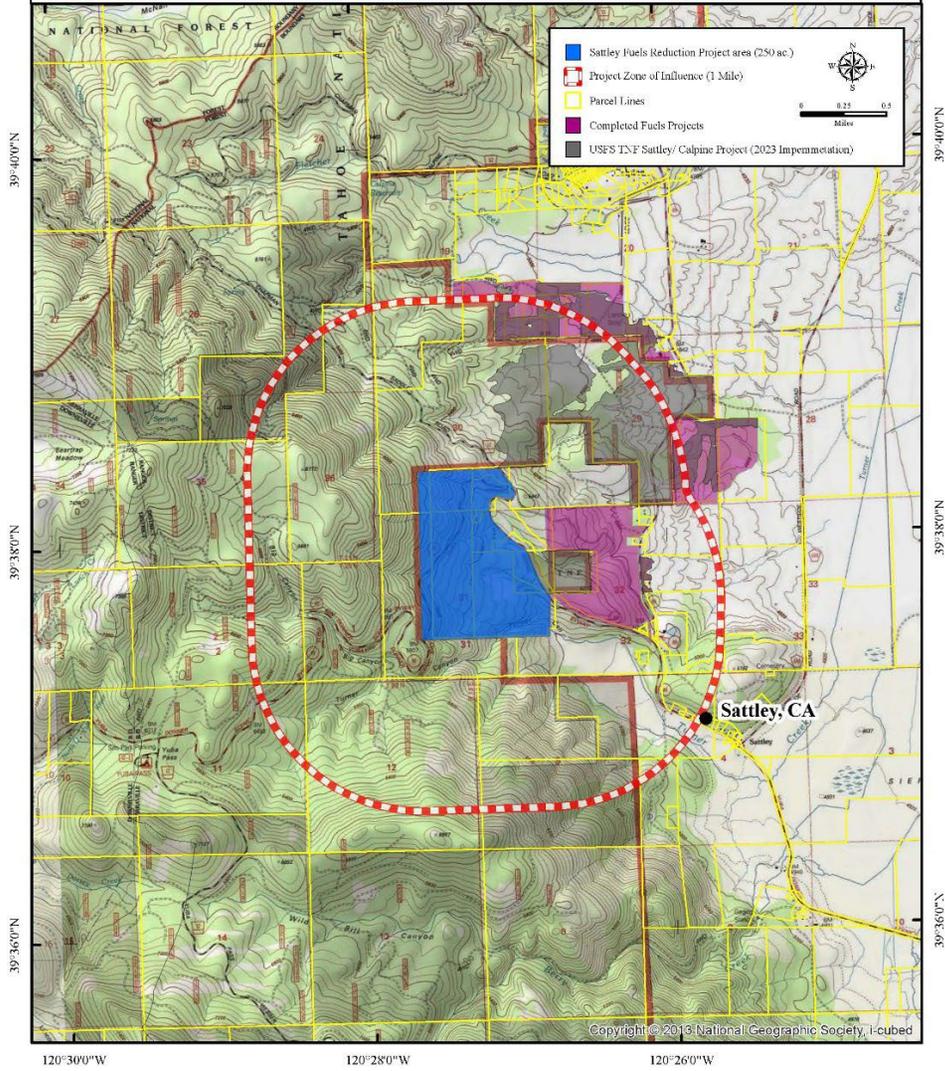


TIGER/Line, J, SF, SRoad, j, ta: lyiturnl Eajih Data: U.S. Oeaplm. ent of Slate Centers for :Bivronm |nlal Informat. on. Data refre- F e'.cruary, 2025.

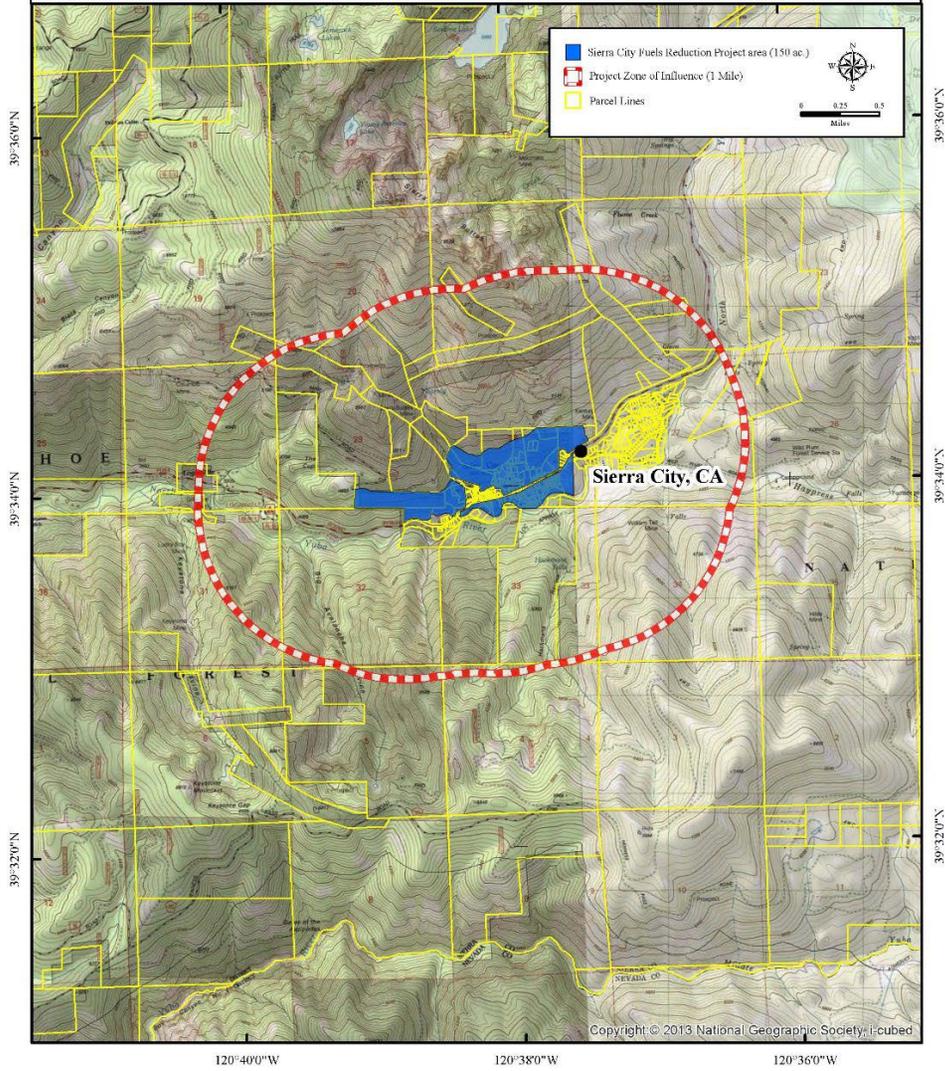


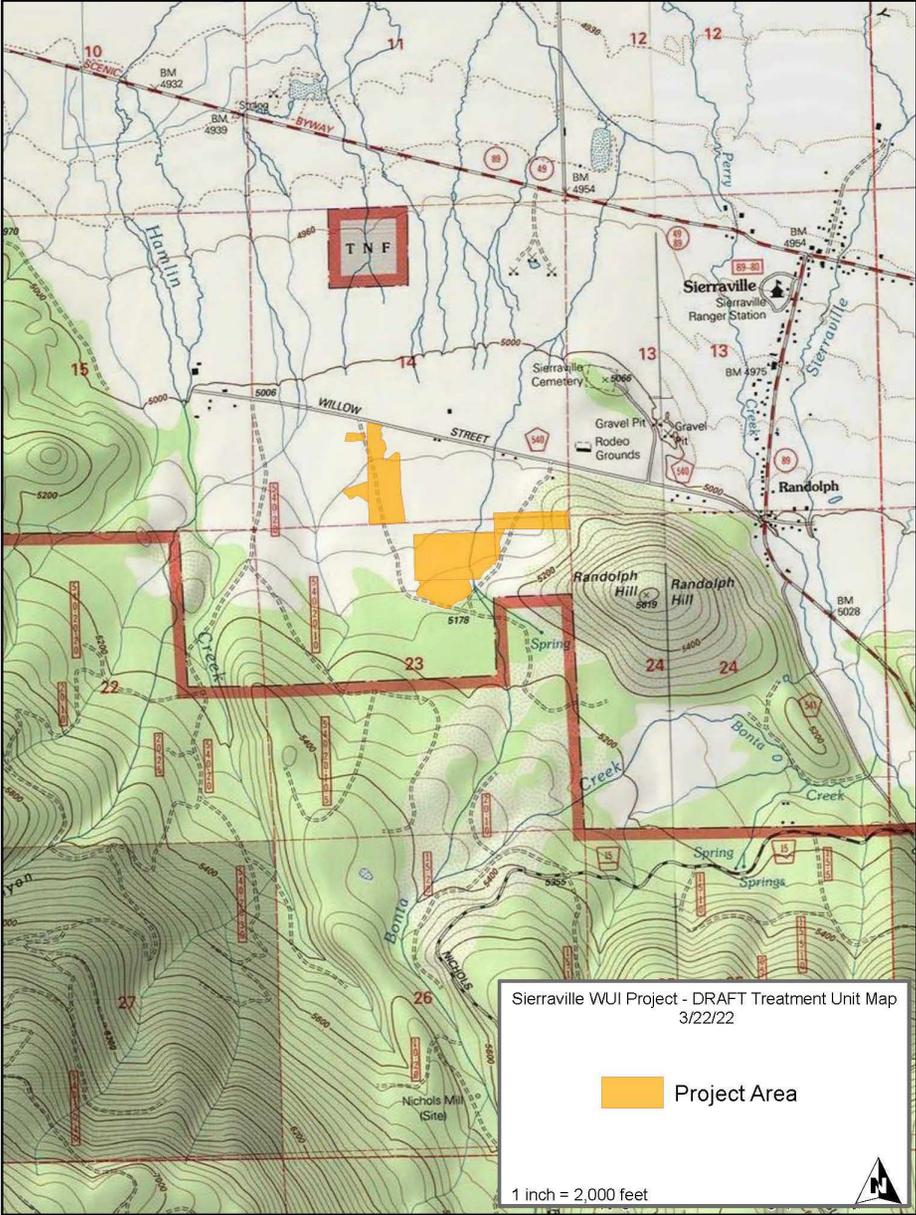


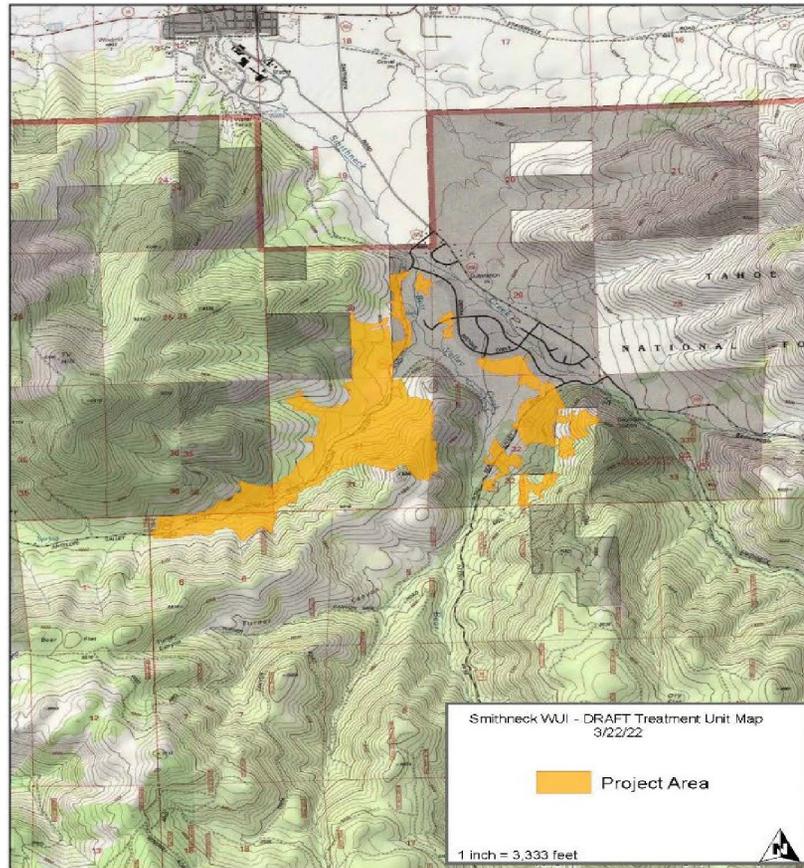
Sierra City - Sattley Fuels Reduction Project Sattley Project Area Map

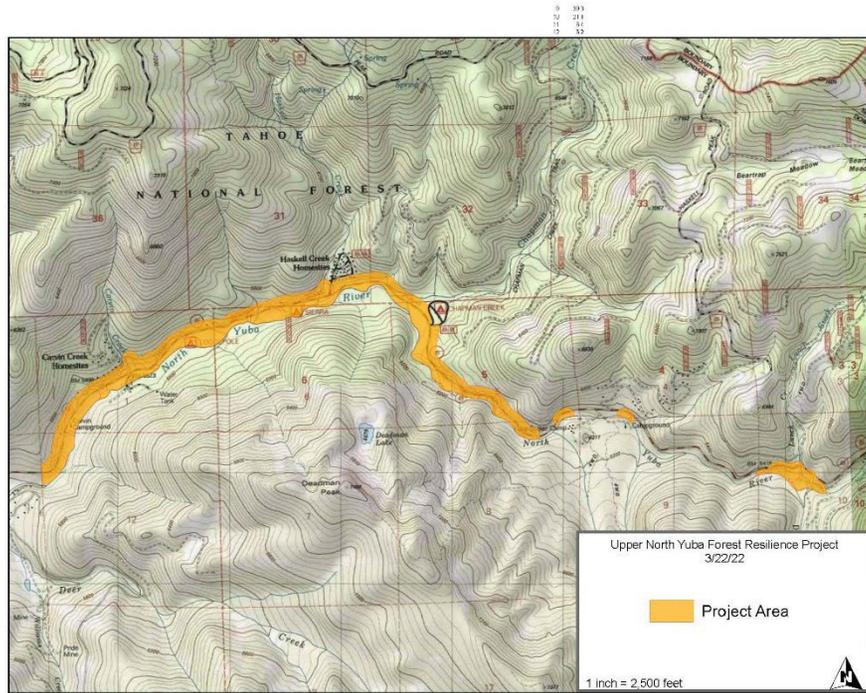


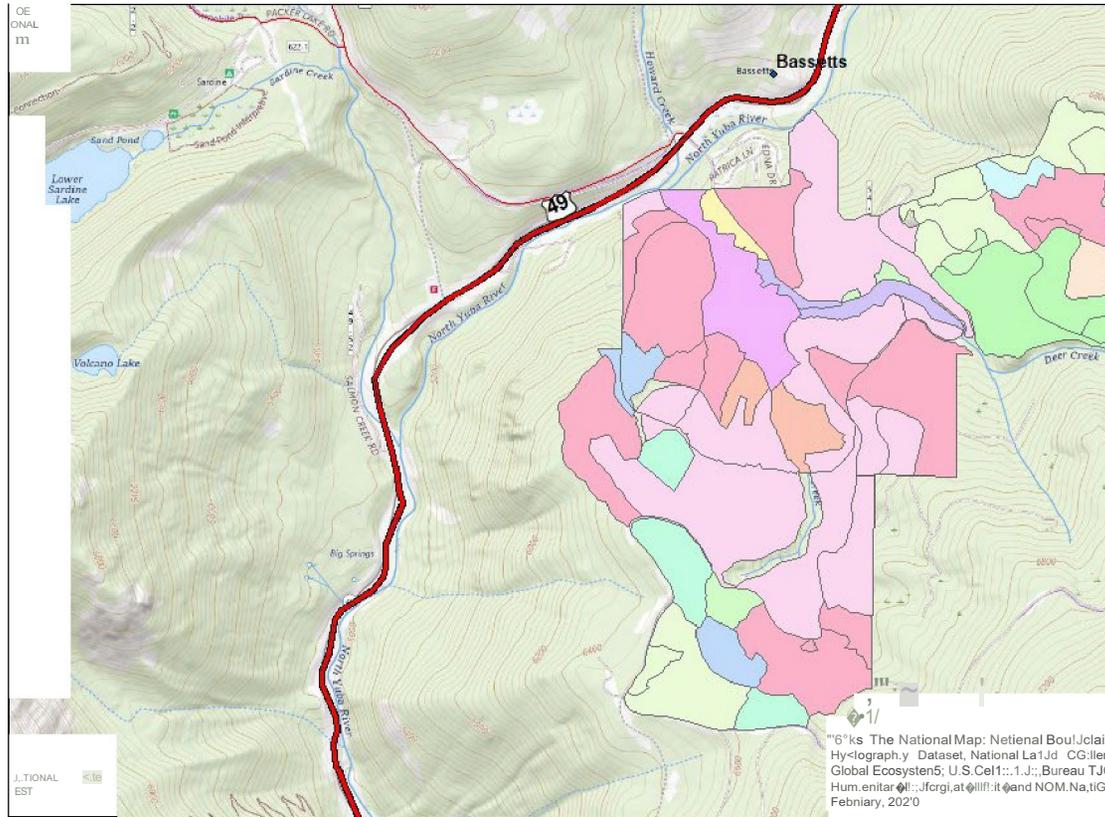
Sierra City - Sattley Fuels Reduction Project Sierra City Project Area Map











TAHOE
NATIONAL
FOREST

Legend

GreeneAcres
 W <all other values>

Treatment

W HCHP, LS, PB, UB, TC
 LJ M.A.ST, HCHP, LS, PB, UB, TC
 LJ M.A.ST, HCHP, PB, UB, Rx Fire-
 W MT, MCMP, HCHP, LS, PB, UB, TC
 W file.clenical Ova-story Re-ITT01a, MAST, TSI, HCHP, MCr.1P, PB, UB
 W THIN, MAST, HCHP, MP, PB, TC
 C3 THIN, STT, HCHP, LS, PB, UB
 C3 THIN, STT, MAST, HCHP, LS, PB, UB
 LJ THIN, STT, M.AST, HCHP, LS, PB, UB,
 W THIN, STT, MCMP, HCHP, PB, IJB
 W THIN, STT, MCMP, HCHP, PB, UB, TC
 LJ THIN, Trector Ple

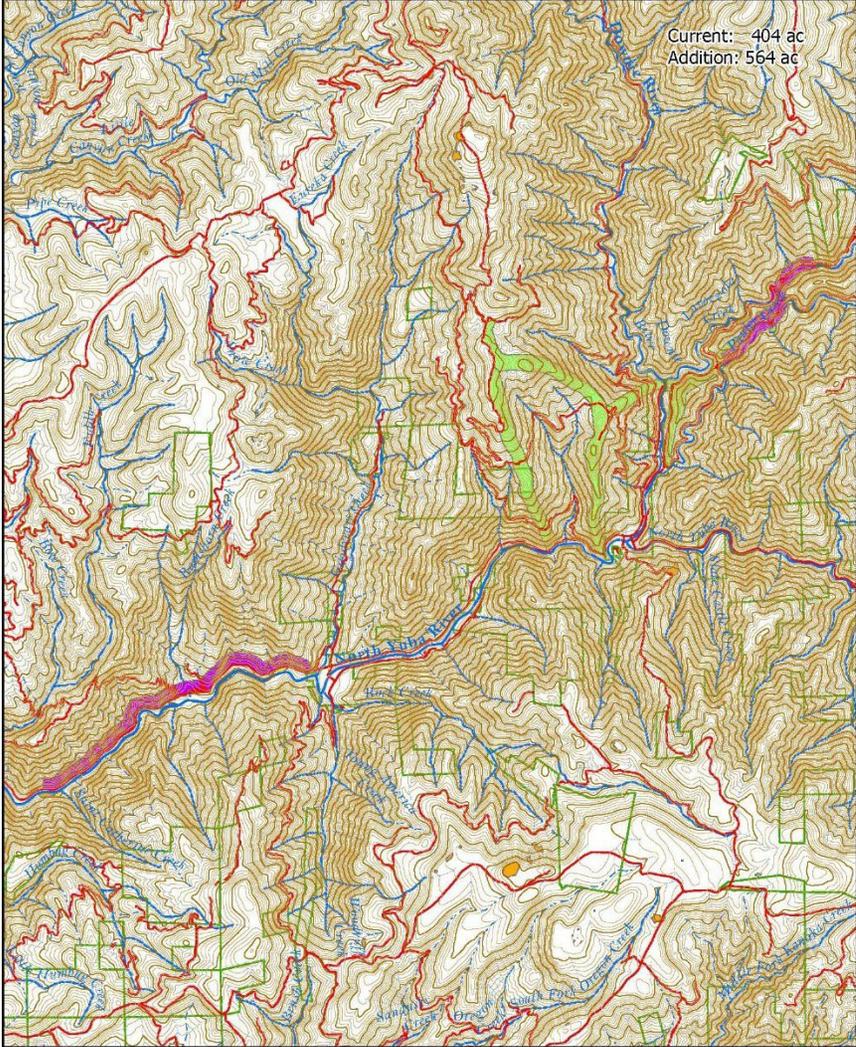
© 2020 The National Map: National Boundary Dataset, 30-degree Elevation Progression, C-ecographic Nomenclature System: National Hydrography Dataset, National Land Cover Database, National Structure, and National Transportation Features Dataset; U.S. Geological Survey Global Ecosystems; U.S. Census Bureau Tiger/Line Dataset; USFS Road Status; National Earth Data; U.S. Department of State Humanitarian Information; National Oceanic and Atmospheric Administration; U.S. Coastal Relief Model. Data refreshed February, 2020

Green Acres Project



1,250 Meters

Good_Lava



Current: 404 ac
Addition: 564 ac

- Good_Lava_Current
- Good_Lava_Addition
- INVASPlant_Current
- TESPlant_Current
- PrivateLand

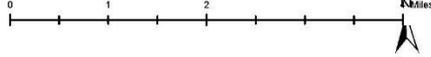
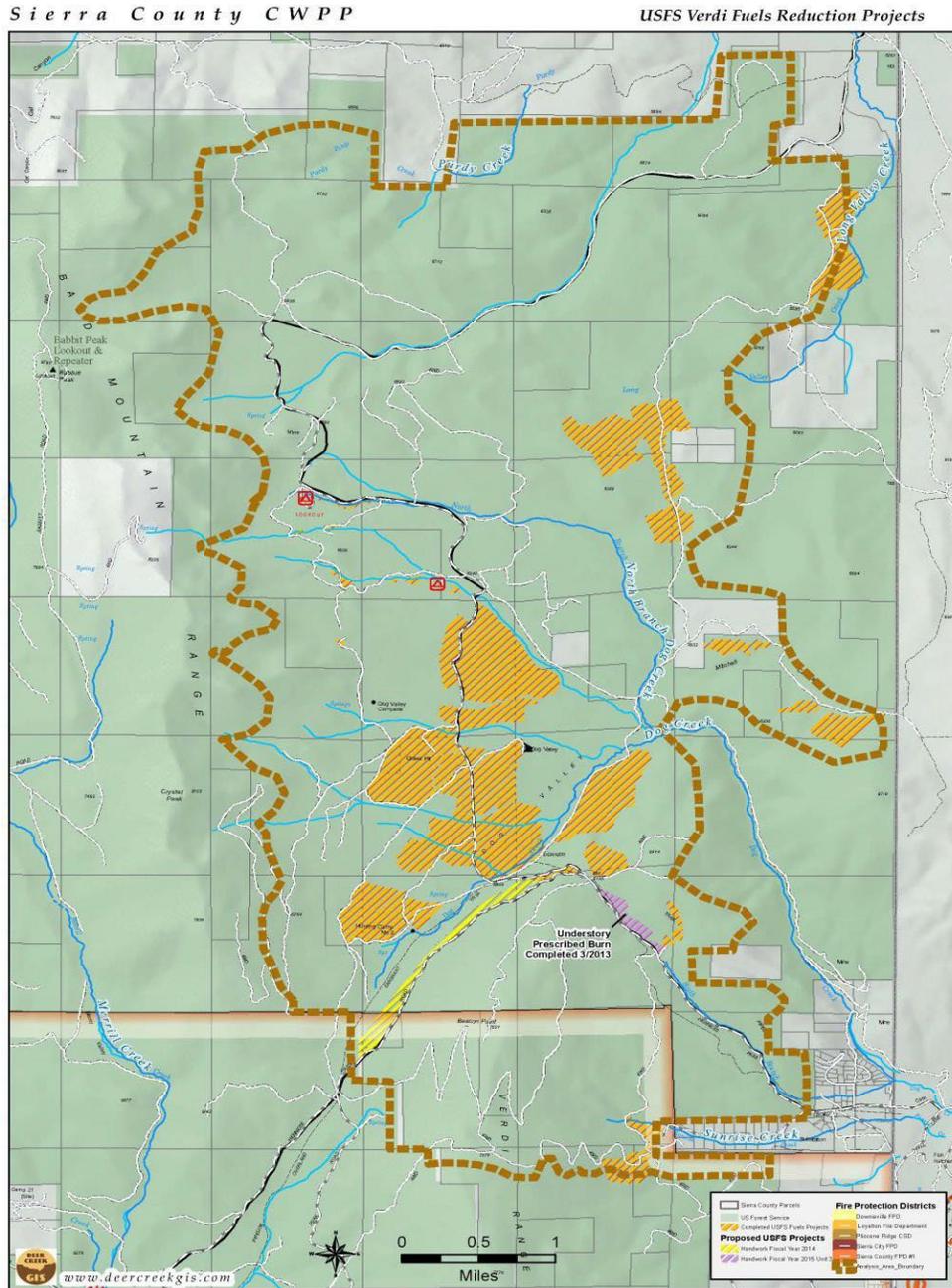


Figure 13: Humboldt-Toiyabe National Forest Verdi projects



2015 CWPP Status of Recommended Projects by Fire District

The following is a list of projects recommended in addition to the projects that were not completed from the 2002 Fire Plan. These projects were identified during the stakeholder, community meetings and by the CWPP contractor. The following are tables for each district that projects were identified and maps of the proposed projects

Sierra County Fire Protection District#1 Projects

Table 7: Sierra County Fire Protection District #1 projects

Community	Name	Treatment Type	Road Name	Mechanical	Hand	Prescribed Fire	Acres	Est. Cost	Current Status	
	SV 1	Fuel Break		yes			58	92,000	Planning Funded 2025	
	SV 2	Fuel Break		Yes			96	153,000	Completed 2023	
	SV 3	Fuel Break		Yes			320	512,000	Planning Funded 2025	
	SV 4	Fuel Break		Yes			70	112,000	Planning Funded 2025	

	SV 5	Fuel Break Maintenance		Yes			222	133,200	Planning Funded 2025	
	ST 1	Fuel Break		Yes			70	112,000	Half Completed 2022*	
	CP2,3	Fuel Break Maintenance		Yes			50	30,000	Half Completed **	
Status * West half completed through Turner Ranch NRCS project										
** 2017 West half done through Copren Five THP which extended further to the west reducing stands to 75 sqft										

Figure 14: SCFPD Projects Map

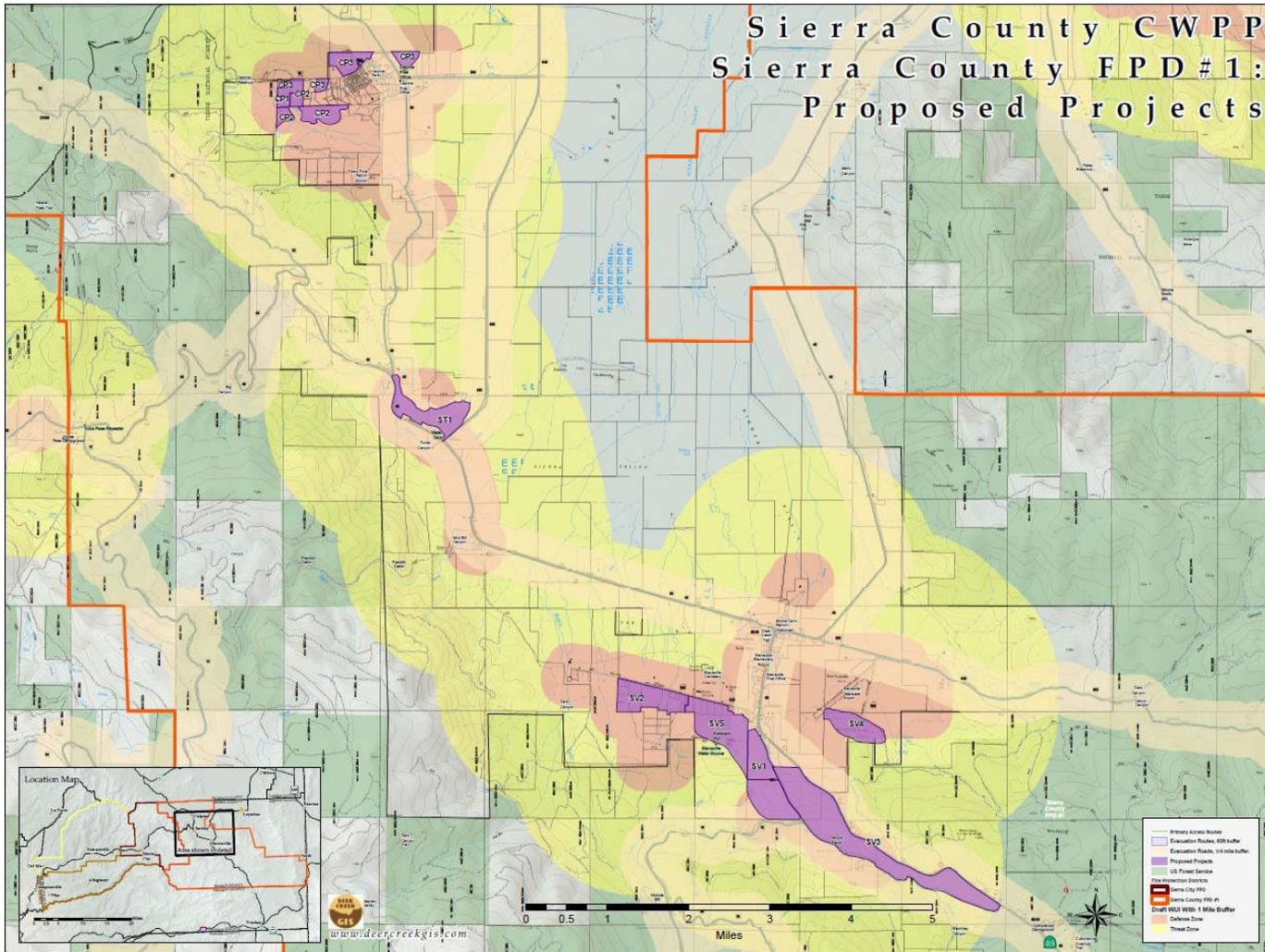
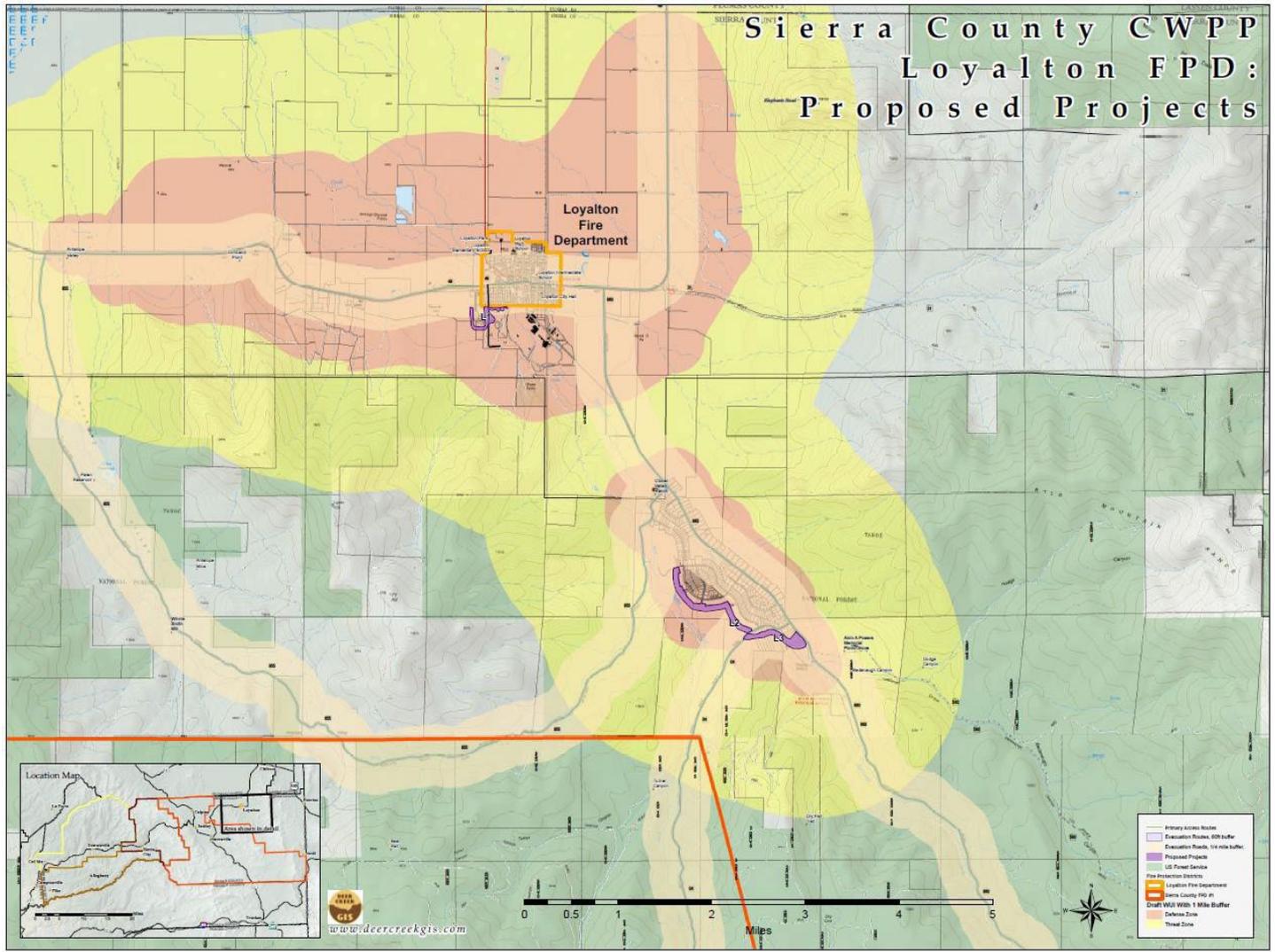


Figure 15: Loyalton Project map



Verdi Area Projects

Table 9; Verdi Projects

Community	Name	Treatment Type	Road Name	Mechanical	Hand	Rx Fire	Acres	Est. Cost	Current Status	
	V 1	Fire Station Construction							None	

Sierra City Fire Protection District Projects

Table 10: Sierra City Projects

Community	Name	Treatment Type	Road Name	Mechanical	Hand	Rx Fire	Acres	Est. Cost	Current Status	
	SC 1	Roadside Hazard Reduction			Yes		11	25,300	Completed 2016	
	SC 3	Roadside Hazard Reduction			Yes		4	9200	In Planning Funded	
	SC 2	Fuel break 200 ft wide		Yes			4.5	7200	In Planning Funded	

Figure 16: Sierra City Project map

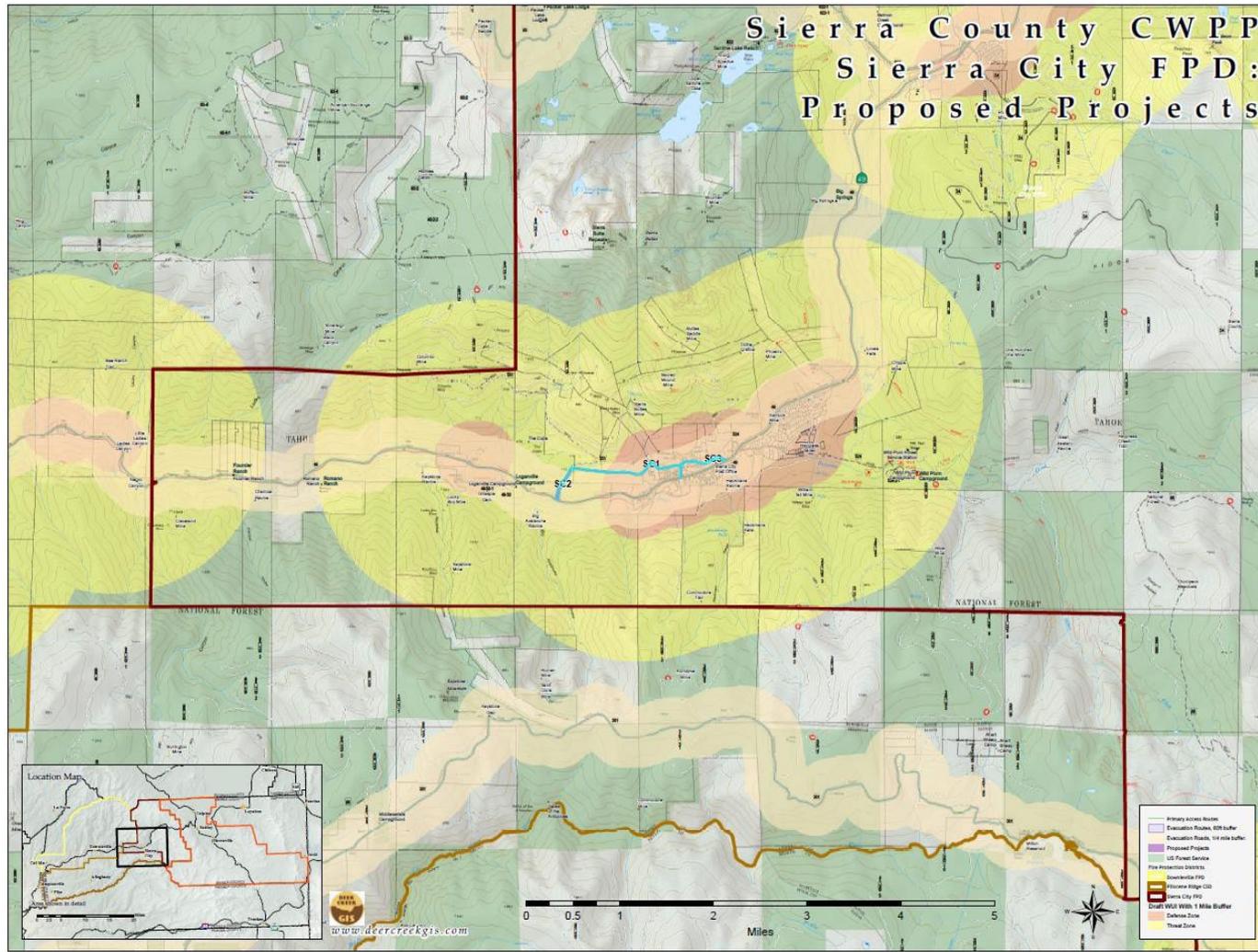


Table 11: Allegany Projects

Community	Name	Treatment Type	Road Name	Mechanical	Hand	Rx Fire	Acres	Est. Cost	Current Status	
		Maintenance			Yes		39	39,000		

The map figure 17 shows projects that have been completed or are partially completed and should be updated and put into a cycle of maintenance in the next couple of years.

Figure 17: Allegheny Project Maps

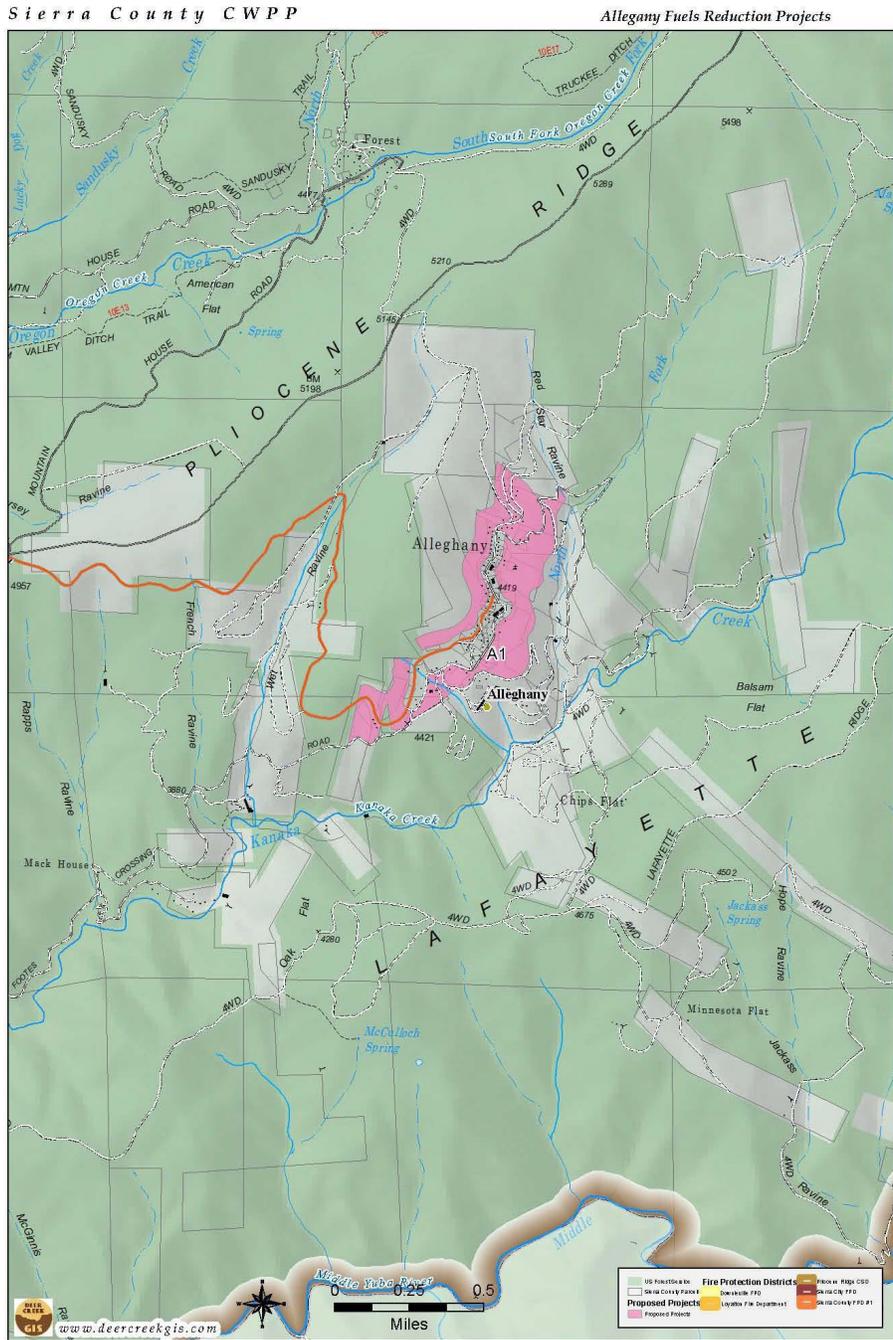


Figure 18: Pike Project Map

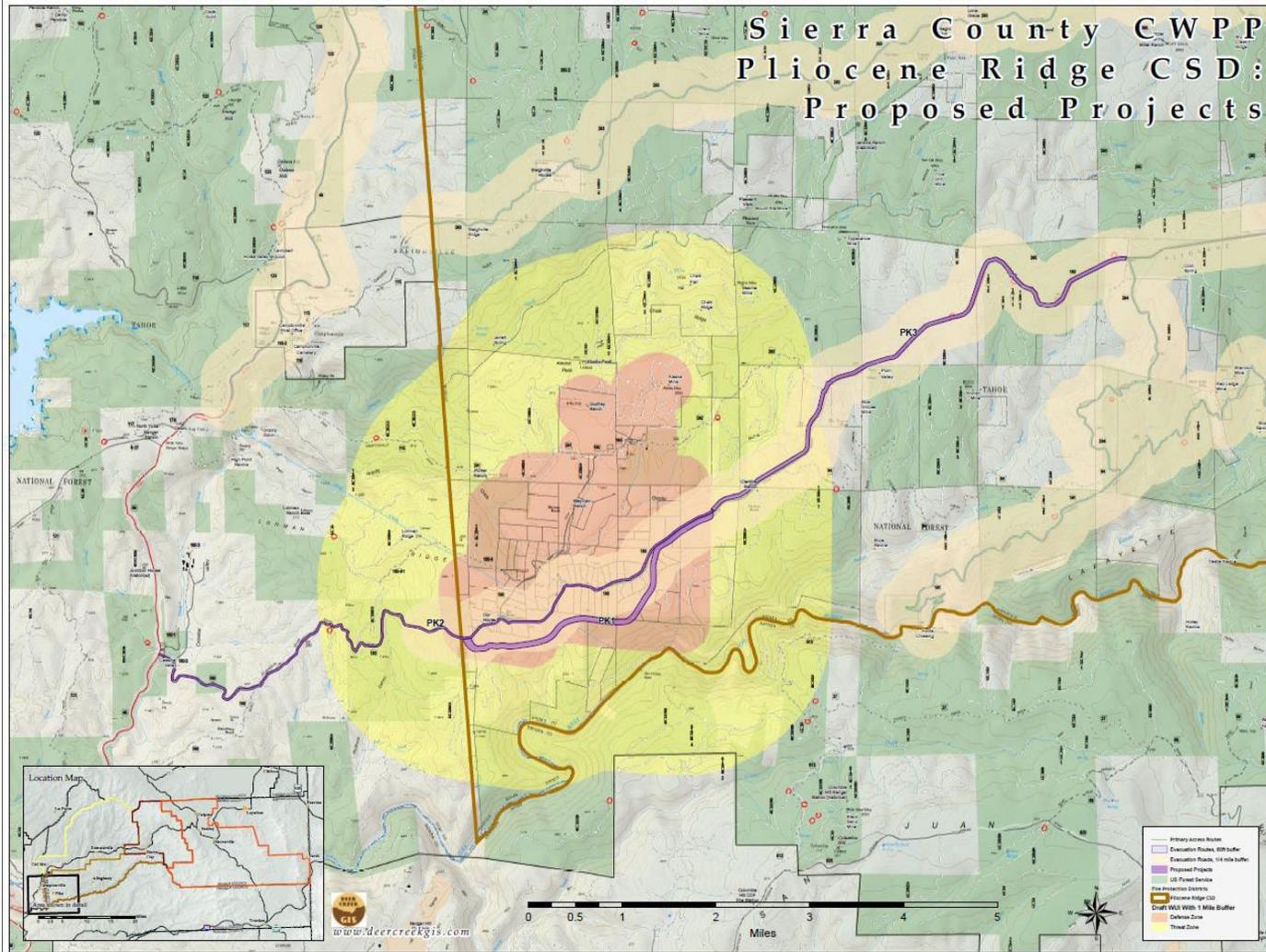
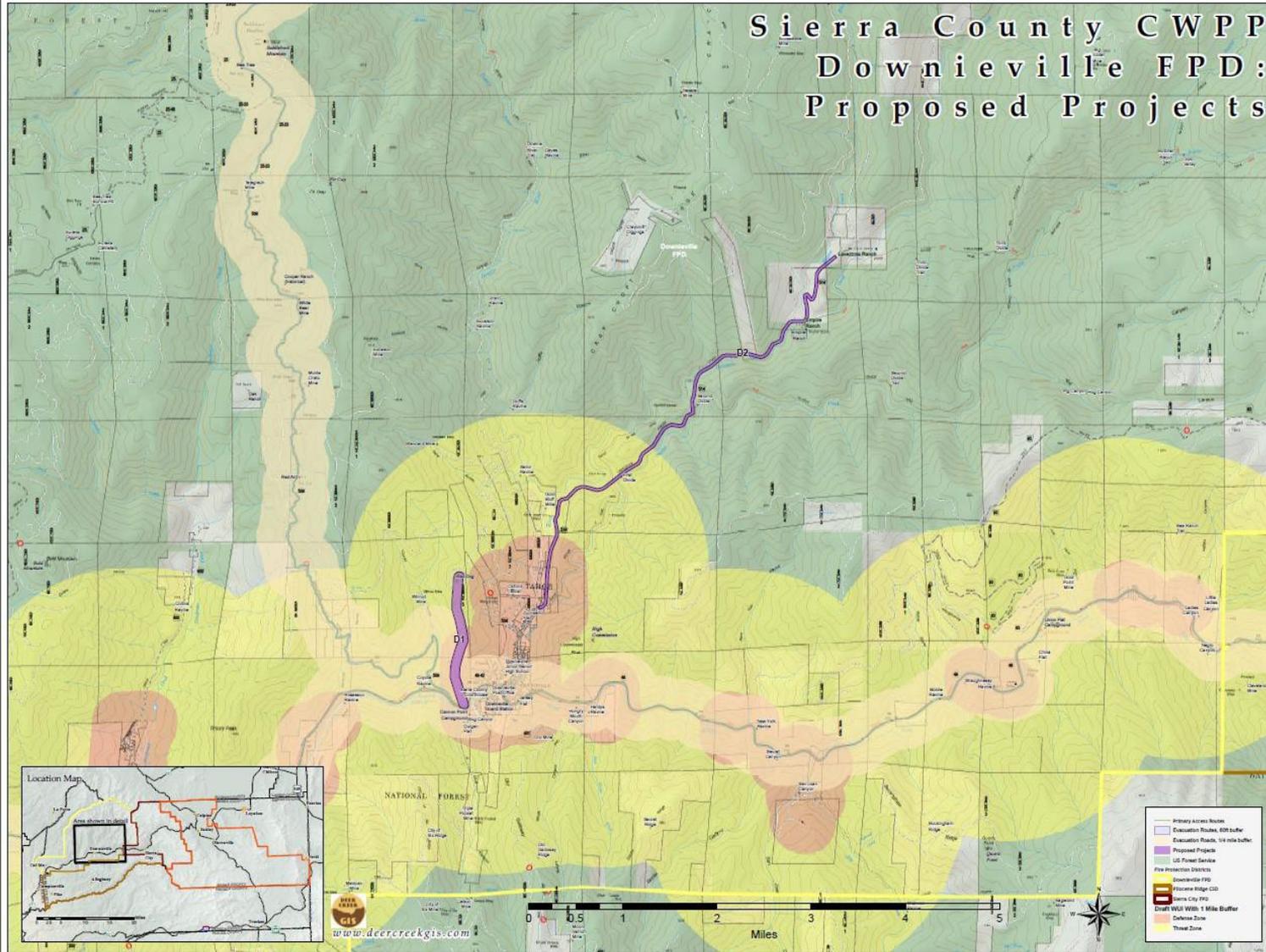


Figure 19: Downieville Project Maps



Fuels Treatments and Restoration Projects Treatment Costs

The following table is a list of costs for various types of treatments. The costs were derived from treatments that have occurred in El Dorado County over the past 8 years. Recommendations for treatments and prescriptions can be found in Appendix B

The costs in the following table may be used for costing grant requests for proposals

Table 14: Treatment Costs

Fuel Reduction Treatment	Cost per acre
Mechanical thinning (urban interface)	?
Mastication	1600
Prescribed burning	?
Hand thin and Chip	2300
Pile Burn	?
Machine Pile	?

The costs displayed in Table 14 are based on contractor costs for the treatment plus management and CEQA documentation and are based on various projects throughout the northern Sierra area. The mastication is 1600 dollars per acre and the cut and chip hand treatment is 2300 dollars per acre, maintenance of existing treatments are approximately 600 dollars per acre. Prescribed burn costs should go down substantially with follow-up burning, burning usually takes two or three entries to reduce the fuels effectively. The environmental document costs can vary depending on the requirement for field surveys which can increase the cost per acre

II. Monitoring and Evaluation

A CWPP does not end when it is adopted; a thorough process should involve a continuous cycle of collaborative planning, implementation, monitoring and adapting strategies based on lessons learned. As communities learn from successes and challenges during the development and implementation of their CWPP, stakeholders may identify new actions, propose a shift in how decisions are made or actions are accomplished, and evaluate the resources necessary for successful CWPP implementation.

- Track accomplishments and identify the extent to which CWPP goals have been met.
- Examine collaborative relationships and their contributions to CWPP implementation, including existing participants and potential new partners.
- Identify actions and priority fuels reduction projects that have not been implemented, and why; set a course for future actions and update the plan.

Table 12 is a framework that can help a community in monitoring and evaluating its CWPP. The table lists six CWPP goals and a series of questions to help communities monitor and evaluate accomplishments, challenges, and how well goals have been met. Communities and agencies may want to work together to ensure that, at a minimum, data are collected to evaluate the plan measures to gain consistency. The community must recognize that fire safety is rapidly changing. It is likely that new developments and new sources of money in fire safety will change from year to year. It is recommended that this plan be reviewed on an annual basis by the fire districts with updates every 5 years or sooner if necessary.

Table 15: Framework for Monitoring and Updating the CWPP

<p>1. Partnerships and Collaboration</p>	<p>1.1 Who has been involved with CWPP development and implementation? How have relationships grown or changed through implementation? What resources did they bring to the table?</p>
--	--

	<p>1.2 Have partners involved in the planning process remained engaged in implementation? Have new partners become involved? How have the relationships established through the CWPP enhanced opportunities to address CWPP goals?</p>
	<p>1.3 How has the collaborative process assisted in implementing the CWPP and building capacity for the community to reduce wildfire risk?</p>
	<p>1.4 Has CWPP collaboration made a difference or had a positive impact on local organizations, neighborhoods and/or actions?</p>
<p>2. Risk Assessment</p>	<p>2.1 How has population growth/change and development in your community affected wildfire risk?</p>
	<p>2.2 Are there new or updated data sources that may change the risk assessment and influence fuels priorities?</p>
	<p>2.3 Has the community enacted a wildfire-related ordinance? If so, county, state, or local?</p>
	<p>2.4 Has the community enforced local or CPR 4291 ordinances</p>
<p>3. Reducing Hazardous Fuels</p>	<p>3.1 How many acres have been treated for hazardous fuels reduction on public and private land that were identified as high-priority projects in the CWPP? What percentage of total acres treated does this constitute?</p>

	3.2 How many fuels reduction projects have spanned ownership boundaries to include public and private land?
	3.3 What is the number and percent of residents that have participated in projects and completed defensible space on their land?
	3.4 How many hazardous fuels reduction projects have been implemented in connection with a forest restoration project?
	3.5 Economic development resulting from fuels reduction How many local jobs have resulted because of fuels reduction or restoration activities?
	3.6 Evaluate any CWPP fuels treatment utilized during suppression for effectiveness

4. Reducing Structural Ignitability	4.1 What kind of resource losses (homes, property, infra-structure, etc.) have occurred from wildfires?
	4.2 Are the current codes and regulations for wildfire hazard adequate? If not, are there efforts to change or update them? Are there action items in the CWPP to develop codes and recommendations?
	4.3 Has the public knowledge and understanding about structural ignitability been increased by strategies adopted in the CWPP? Have homeowners been educated on how to reduce home ignitability, and are they replacing flammable building components with non-flammable materials?

	4.4 How many Firewise Communities have been recognized? How many citizens, neighborhoods, or communities have taken action to increase the resilience of their structure to fire?
	4.5 How has the availability and capacity of local fire agencies to respond to wildland and structural fires improved or changed since the CWPP was developed?
5. Education and Outreach	5.1 What kind of public involvement has the CWPP fostered? Examples include public education, household visits, demonstration projects, etc.
	5.2 Has a change in public awareness about wildfire resulted from the plan?
	5.3 What kinds of activities have citizens taken to reduce wildfire risk?
6. Emergency Management	6.1 Is the CWPP integrated within the county or municipal Emergency Operations Plan?
	6.2 Does the CWPP include an evacuation plan? If yes, has it been tested or implemented since the CWPP adoption?
	6.3 Is the CWPP aligned with other hazard mitigation plans or efforts?
	6.4 Is the Evacuation Website operational been updated with new information

* Include goals that can be evaluated with measures as part of a local CWPP evaluation process. This table identifies specific measures that relate to outcomes that can be evaluated at a national level and are associated with HFRA or identified within the 10-Year Implementation Plan.

Appendix

Appendix A: Sierra County Fire Behavior Modeling Model Descriptions

The Interagency Fuels Treatment Decision Support System (IFTDSS)

IFTDSS is a web-based application designed to make fuel treatment planning and analysis more efficient and effective. It provides access to data and models through one simple user interface

It contains a fire behavior mapping and analysis program that computes potential fire behavior characteristics (spread rate, flame length, Fireline intensity, etc.) over an entire landscape for constant weather and fuel moisture conditions.

- It uses the same spatial and tabular data as other models such as FLAMMAP :
 - a Landscape (.LCP) File,
 - Initial Fuel Moistures (.FMS) File,
 - optional Custom Fuel Model (.FMD),
 - optional Conversion (.CNV),
 - optional Weather (.WTR), and
 - optional Wind (.WND) Files.
- It incorporates the following fire behavior models:
 - Rothermel's 1972 surface fire model,
 - Van Wagner's 1977 crown fire initiation model,
 - Rothermel's 1991 crown fire spread model, and
 - Nelson's 2000 dead fuel moisture model.
 - Crown Fire
 - Fire type 1 is a surface fire; the fire is generally on the ground, high likelihood of initial attack success.
 - Fire type 2 is a passive crown fire, (torching and short range spotting).
 - Fire type 3 is an active crown fire, (fire actively moving in the crowns of trees with mid to long range spotting).

Appendix B: Useful Resources in Pre Fire and Emergency Planning

- 1. Get a Kit, 2. Make a Plan, 3. Be Informed <http://www.readyforwildfire.org/>
- Making your Family Disaster Plan <http://www.ready.gov/america/makeaplan/index.html>
- Disaster Planning guide template <http://ready.adcouncil.org/beprepared/fep/index.jsp>
- California Emergency Management Agency <http://www.calema.ca.gov/>
- Sierra County Home Page <http://www.sierracounty/>
- State of CA http://www.fire.ca.gov/fire_prevention/fire_prevention_wildland_codes.php
Builders Wildfire Mitigation Guide <http://firecenter.berkeley.edu/bwmg/>
- Wildfire Preparedness for horse owners
<http://www.ext.colostate.edu/pubs/livestk/01817.html>
- California Fire Safe Council <http://www.firesafecouncil.org/>
- Sierra County Fire Safe Council
- Red Cross - Sacramento/Sierra Chapter <http://sacsierraredcross.org/>
- Fire Adapted Communities (Educational Resource) <http://www.fireadapted.org/>
- Firewise Communities (Educational Resource) <http://www.firewise.org/>

Appendix C Firewise communities of Sierra County