

Plumas County

# FUELS TREATMENT PROJECT

Feather River Regional Forest & Fire Capacity

**MARCH 2023**



**FEATHER RIVER**  
RESOURCE CONSERVATION DISTRICT

After

Before



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**CAR** – Communities At Risk

**CSD** – Community Services District

**CWPP** – Community Wildfire Protection Plan

**DFPZ** – Defensible Fuel Profile Zone

**HOA** – Homeowners Association

**HFR** – Hazardous Fuels Reduction

**LACC** – Lake Almanor Country Club

**MFFR** – Middle Fork Feather River

**NFFR** – North Fork Feather River

**PCFSC** – Plumas County FireSafe Council

**PCFT** – Plumas County Fuels Treatment

**PCT** – Precommercial Thinning

**PG&E** – Pacific Gas & Electric

**PNF** – Plumas National Forest

**POD** – Potential Wildfire Operational Delineation

**RFFCP** – Regional Forest & Fire Capacity Program

**SPI** – Sierra Pacific Industries

**SR** – State Route

**VAR** – Values At Risk

# BACKGROUND

This report summarizes three years of analysis, interviews, and project planning pertaining to forest health and fuels reduction in Plumas County, California. The ultimate goal of the project was to synthesize past completed fuels treatments, proposed future treatments, and vulnerable gaps in the landscape into a regional priority plan which land managers and project proponents would utilize to drive decision making and project development. The project was limited in scope to the upper Feather River watershed, within the district Boundaries of the Feather River Resource Conservation District.

This project identifies forest conditions that are vulnerable to wildfire and potential location specific treatments to improve resiliency. Early actions in the project centered around identifying locations that were high priority due to risk and resource protection where projects could be implemented in a short period of time. Collaboration with land managers and partners helped identify “shovel ready” projects and Community Perspective (adjacent to communities, historically untreated) that lacked any planning or funding for planning efforts. Projects with readily available and attainable goals were developed into grant proposals.

**Concurrently the project looked at existing regional plans including:**

Plumas County Local Hazard Mitigation Plan (2020)

[https://www.plumascounty.us/DocumentCenter/View/37164/Plumas-County-2020-LHMP-Update\\_Complete](https://www.plumascounty.us/DocumentCenter/View/37164/Plumas-County-2020-LHMP-Update_Complete)

Plumas County Community Wildfire Protection Plan (Updated Annually)

[https://www.plumasfiresafe.org/uploads/8/1/8/4/81849812/plumas\\_cwpp\\_update\\_2019\\_final.pdf](https://www.plumasfiresafe.org/uploads/8/1/8/4/81849812/plumas_cwpp_update_2019_final.pdf)

CalFire Lassen Modoc Unit Strategic Plan (Updated Annually)

<https://osfm.fire.ca.gov/media/4kqbid5a/2020-lmu-fire-plan.pdf>

Spatial data on previous and proposed projects was provided by the Spatial Informatics Group and Plumas National Forest. These layers were used to define areas which had seen treatments within the past ten years. Comparing these layers to untreated areas allowed the team to develop new proposals, primarily in conjunction with Plumas National Forest. Conversations with land managers and project proponents revealed regular discrepancies between spatial data and ground truthed information. Similarly, many smaller projects not undertaken by an agency or group were unreported. Interviews and field visits were conducted to create more accurate project maps.

# ACKNOWLEDGMENTS

Special acknowledgments to those contributors who provided spatial data, as well as detailed information otherwise not cataloged within. We would like to also acknowledge those with firsthand knowledge of the landscape and history regarding actions in these areas. An extra special thanks to those who took the time to sit for interviews and provide insight from across the region. We would like to specially acknowledge:

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Plumas Underburn Cooperative Member*

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*Lake Almanor Peninsula Firewise  
Community Member*

## **DARRAH HOPPER**

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Almanor Firewise Community Member*

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## **CHUCK BOWMAN**

*Graeagle Firewise Community Lead and  
Mohawk Ranch Community Member*

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## **KYLE FELKER**

*“MapIt” GIS*

## **DAVE KINNATATER**

*Fuels Planner at USFS Plumas National Forest  
Mount Hough Ranger District*



# PROJECT OVERVIEW

This project was initiated through the Regional Forest and Fire Capacity Program (RFFCP) in response to the rising threat of wildfire placed on California's forested landscape. The realities of climate change have exacerbated the wildfire season in both duration and severity. Increasing average temperatures and an abundance of fuels have rendered California extremely vulnerable to this threat. The plans contained within seek to address forest and fuels reduction project implementation strategies pertaining to Plumas County and the upper Feather river watershed.

The planning process was undertaken by the Feather River Resource Conservation District in Spring 2020, as a way to examine fuels and fire issues facing the upper Feather River watershed. The planning approach involved assessing current conditions and wildfire risk within the umbrella of climate change and current management strategies. This process invokes a "not if but when" mentality for wildfire preparedness and assumes that any forested landscape within the region has the potential to experience high severity wildfire. The potential for loss of life, property, natural resources, biodiversity, and watersheds necessitates a cohesive and actionable plan towards resilience. Purpose and Need

This report should serve as a guiding document for land managers to identify project areas in which treatments would decrease the risk and severity of a wildfire and protect resources and infrastructure. It borrows from local, regional, and statewide, plans to create a strategy to identify Community Perspective and increase the pace and scale of fuels reduction projects.

Priority treatment areas, communities at risk (CAR) as designated in the Plumas Community Wildfire Protection Plan (CWPP), and values at risk (VAR) as designated by the CalFire Strategic Plan 2019 revision, are more readily identified through this process.

We have identified the following factors as worthy of consideration within the planning process:

**RISK OF IGNITION**

**NATURAL RESOURCES**

**INFRASTRUCTURE**

**FUEL LOADS & VEGETATION TYPES**

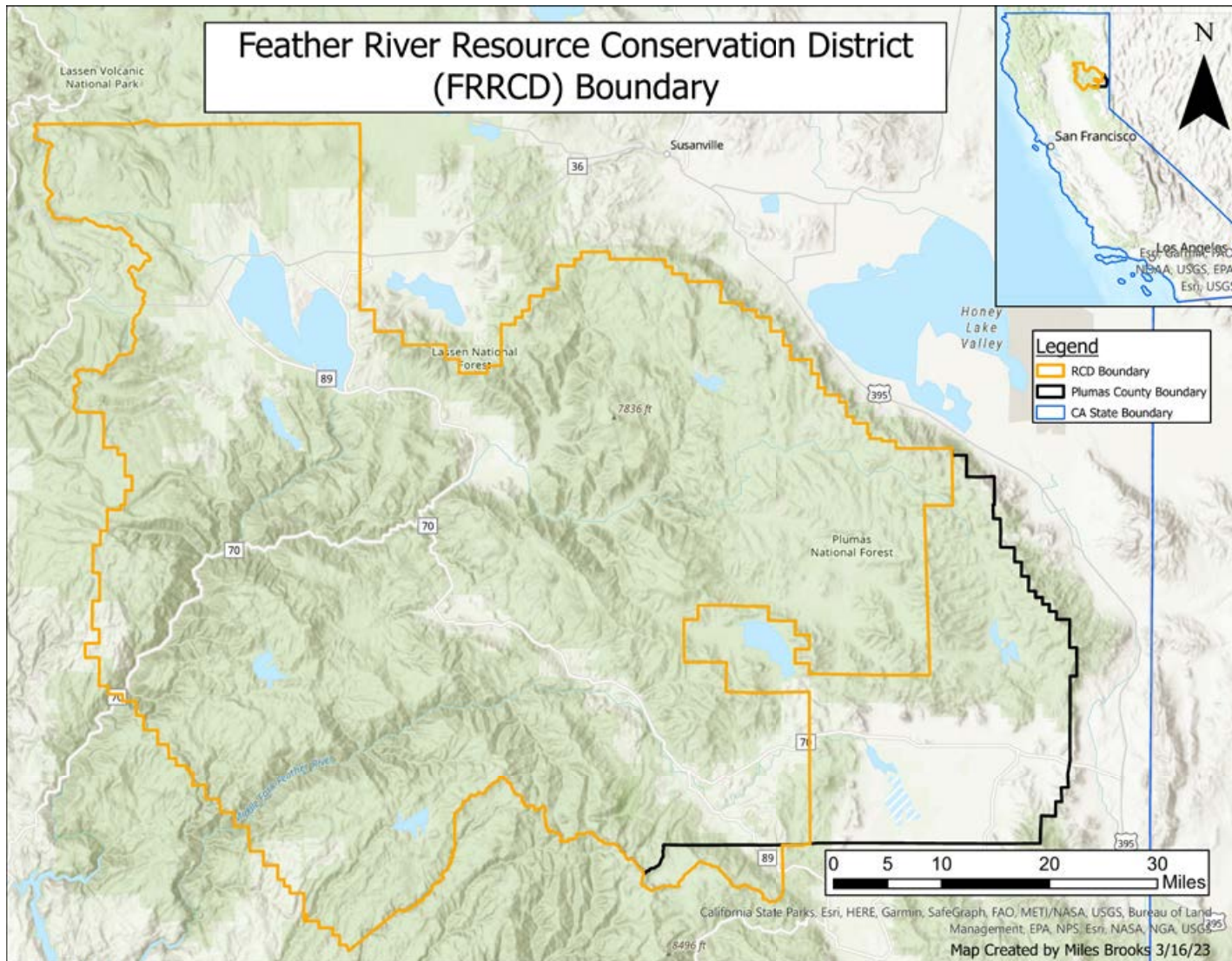
**PREVIOUS TREATMENTS**

**ENVIRONMENTAL COMPLIANCE & PROJECT READINESS**

**FIRE HISTORY & BEHAVIOR**

This document also provides guidance on the fuel types and treatment options based on current landscape conditions. The regional Fuels and Fire Capacity plan addresses the existing ability to address fuels concerns within the Upper Feather River Watershed and helps identify weaknesses and needs.

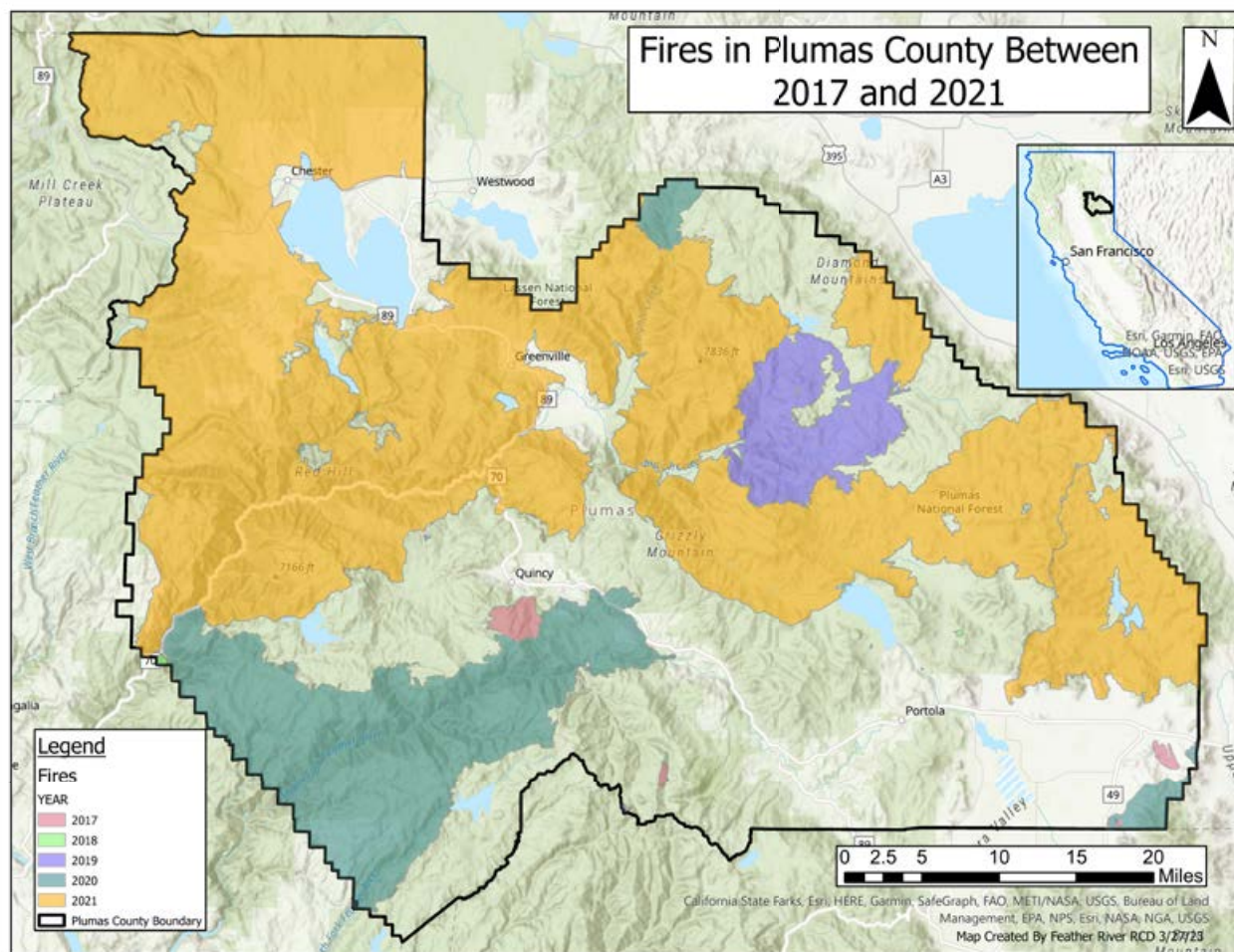
# GEOGRAPHIC SCOPE



The Feather River Resource Conservation District boundary covers the waters within the upper Feather River watershed, including the South, Middle, and North Fork Feather above the Oroville dam. An estimated 19,915 people reside within the project area, which is defined by the Plumas County Boundary with the exception of parts of the Sierra Valley and south eastern Plumas.



# CURRENT CONDITIONS



150+ years of fire suppression, overstocking timber stands, and fire suppression have resulted in forest conditions across California with high levels of surface and ladder fuels. In Plumas County, the consequences of these conditions are readily apparent in recent fire history. Wildfires since 2000 have burned 76% of Plumas county (1,284,129.9 acres). Since 2017, about 60% (1,010,340 acres) of Plumas County have burned in wildfires. The three most recent fires (2021 Dixie Fire, 2021 Beckwourth Complex, and the 2020 North Complex fire) burned 55% of Plumas County (932,362 acres).

Plumas County is a mosaic of high severity-burn areas, shrub dominant regeneration areas, unburned areas with high fuel loads, private industrial timberland, and Plumas National Forest fuels reduction projects. Many unburned areas are still vulnerable, and planning efforts struggle to keep pace with environmental conditions.

The US Forest Service is the predominant land manager in Plumas County, which includes Plumas National Forest, Lassen National Forest, and Tahoe National Forest in its boundaries. Plumas National Forest has some notable fuels reduction projects planned across the county, although these boundaries and plans are not finalized. Some proposed forest service projects overlap proposed fuels reduction in this project.



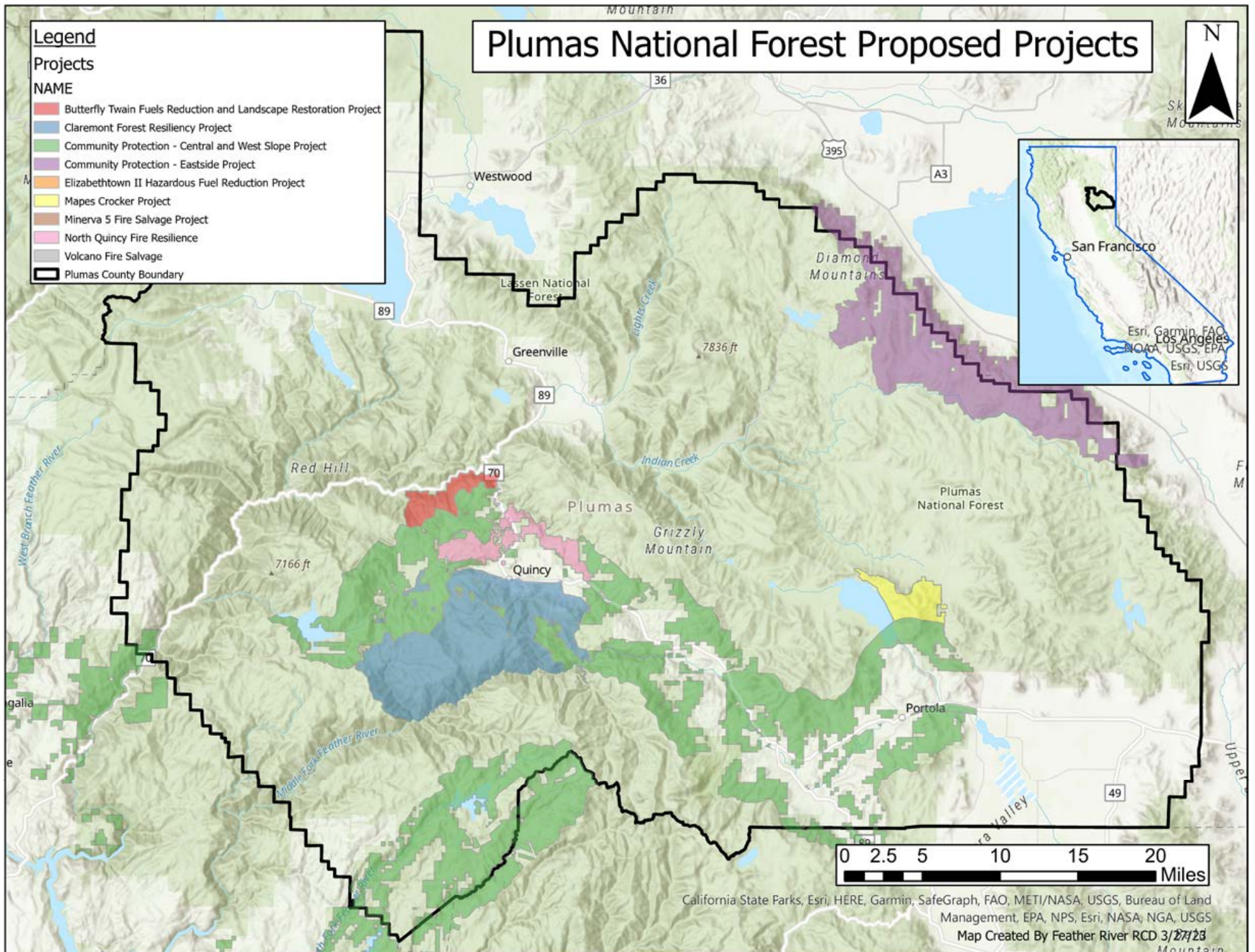
# Plumas National Forest Proposed Projects

## Legend

### Projects

#### NAME

- Butterfly Twain Fuels Reduction and Landscape Restoration Project
- Claremont Forest Resiliency Project
- Community Protection - Central and West Slope Project
- Community Protection - Eastside Project
- Elizabethtown II Hazardous Fuel Reduction Project
- Mapes Crocker Project
- Minerva 5 Fire Salvage Project
- North Quincy Fire Resilience
- Volcano Fire Salvage
- Plumas County Boundary





# WUI

The Wildland Urban Interface (WUI) in Plumas County is defined by the Plumas County Firesafe Council and approved by the Plumas County Board of Supervisors for inclusion in the Local Hazard Mitigation Plan updates. Since the 2020 update, it has been redrawn to include sub tiers; Threat, Defense, Urban Core, and Evacuation routes.

WUI TIER	DEFINITION
Urban Core	Lands directly within a community at risk
Defense	One mile distance from the urban core of communities at risk
Threat	Any HUC 14 Drainage that touches a Defense Zone
Evacuation Route	1/8 mile buffer from established evacuation routes

## TREATMENT TYPES

The objective of this project was to identify priority project areas within the WUI that are specific to each of 40 identified communities. Four types of potential fuels reduction definitions were considered: Defense Zone Thinning, Threat Zone Thinning, Fuel Breaks, and Egress route buffers. This project outlines project areas, but does not prescribe a specific prescription.

“Treatments” in the context of this report refer to activities intended to reduce fuels or remove vegetation that were implemented partially or in full with public funds. Privately funded projects, such as timber harvests, were excluded from this analysis. One of the goals of this report is to identify gaps in the landscape that deserve re-treatments or that have been overlooked and are currently vulnerable to wildfire.

### DEFENSE ZONE

**Defense zone** thinning are forested areas closest to communities or residential land, within a one-mile buffer of the urban core. We used an unofficial estimate of the defense zone boundaries, calculated using GIS buffering tools, to inform our potential thinning shapefiles. Other factors that we took into account to map defense zone thinning were topography, canopy cover, stand density, past wildfires, past and future fuels reduction projects, and world imagery. Labels on defense zone thinning areas indicate the number of acres in that section.

### THREAT ZONE

**Threat zone** thinning are areas within the WUI threat zone but not directly adjacent to at-risk communities. The main difference between defense zone thinning and threat zone thinning is the proximity to communities. These areas still have fuels that need treatment and would have an effect on the nearby community, but may have a different prescription or priority level. The same factors were taken into account as for defense zone thinning. Labels on threat zone thinning areas indicate the number of acres in that section.

## FUEL BREAKS

**Fuel breaks** tend to surround potential thinning projects and could be used as initial defense to slow wildfire spread. Fuel breaks tend to follow ridge tops or other geographical areas that stand out on the landscape, such as flat areas or the base of a slope nearby to the defense zone. Other factors that we took into account to map fuel breaks were Plumas National Forest's "fuel breaks-to-keep" and PODs (Potential Operational Delineations) as well as forest access roads. Fuel breaks could be used as holding lines or for access for fighting future wildfires. Labels on threat zone thinning areas indicate the number of acres in that section.

## EGRESS ROUTES

**Egress routes** buffers surround emergency exit routes throughout the county. Some are SRs (eg. State SR 70), while others are unimproved dirt or gravel roads that connect to communities (eg. Seneca Rd and Greenhorn Ranch Rd). Buffers extend on both sides of the road. Each egress route has two different buffers—a 200-foot buffer and an 1/8 -mile (660 foot) buffer. Two hundred feet was suggested by community members, and an 1/8 mile is recommended according to the WUI designed by USFS and Plumas Fire Safe Council. The different buffer distances could correlate to different prescription or treatment types depending on location and road type. Smaller or shorter egress routes may only need the smaller buffer and a larger egress route (eg. State SR 70) may require the full 1/8 mile buffer. These egress route buffers would also serve as fuel breaks with reduced fuel loads.

*Data from previous fuels treatments were compiled by the Spatial Informatics Group (SIG), which targeted projects undertaken by public land managers, agencies, local NGO's, and private landowners including the timber industry. Plumas National Forest provided additional information in the form of planning documents and vegetation data; and recently developed concepts such as Potential Operational Delineations (PODs) and firelines created during the Dixie Fire that will be retained and maintained on the landscape.*



# BECKWOURTH

## PAST TREATMENTS

No significant fuels reduction projects were recorded in the immediate Beckwourth area, although the Mapes project will impact Forest Service lands north of the community. The 2021 Sugar Fire ignited 4 miles northeast of Beckwourth and burned northeast towards Frenchman Lake. Other past fires include a small railroad fire in town in 1973, the Ramelli fire to the north in 1950, and the Ross fire to the southwest in 1977 (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

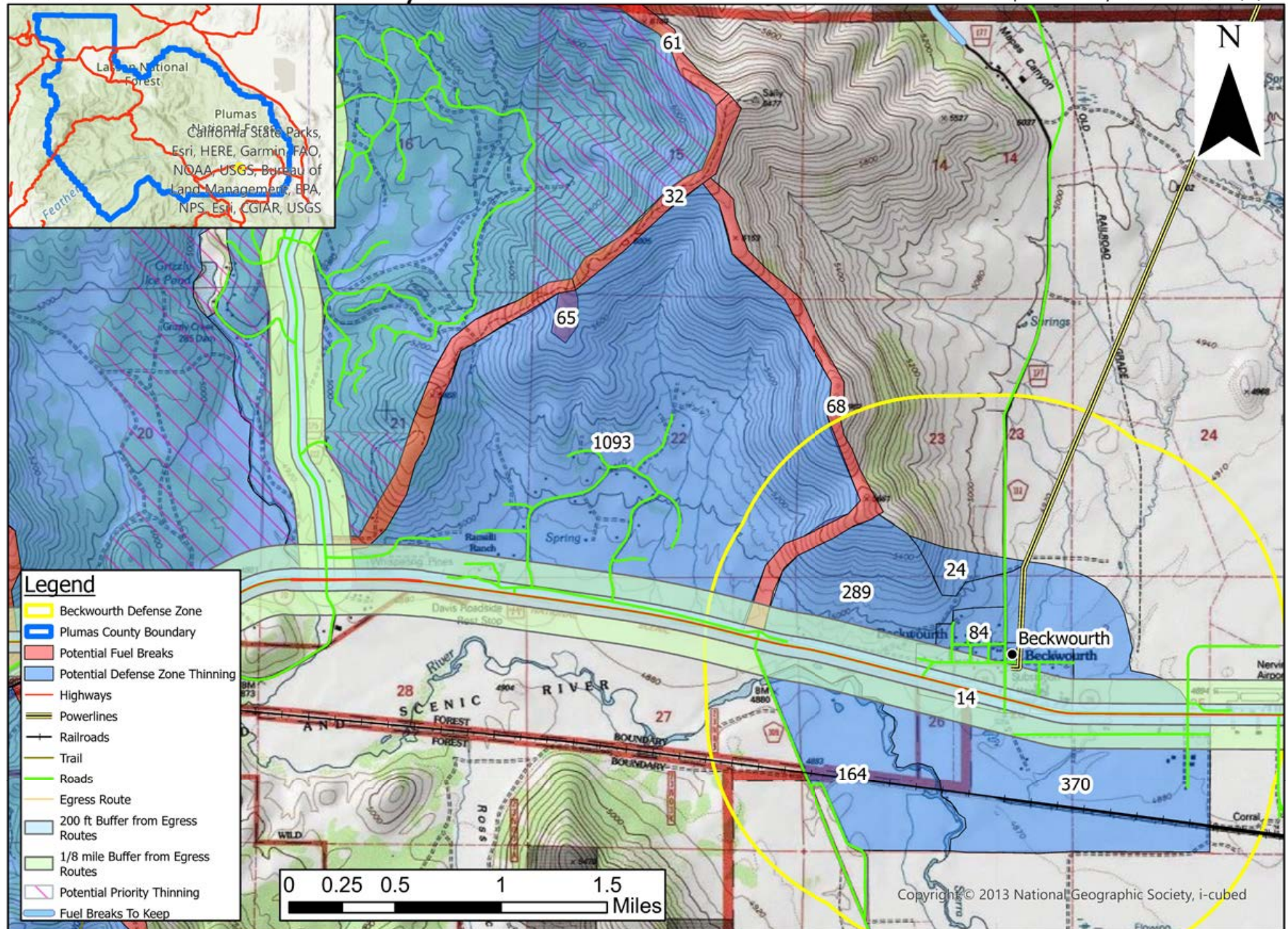
Wind driven fires burning grass and shrubs fuel types are common, with the potential to spread into forested areas north of Sierra Valley. Lightning strikes are a common natural cause of fires in this area (California Department of Forestry and Fire Protection, 2022).

## FUELS REDUCTION

Beckwourth is an eastside pine and sagebrush dominant landscape on the eastern side of the county. Flame lengths in this fuel type are expected to be smaller yet flashier. Therefore defense zone thinning should focus on areas closer to the community. Potential defense zone thinning treatment areas are places where mastication, mowing, and prescribed fire could be used to reduce fuel loads in those areas. The Beckwourth project area includes private property between Grizzly Ranch and Beckwourth, which transitions from mixed conifer to sagebrush ecosystem. Potential fuel breaks follow the ridges between Beckwourth and Grizzly Ranch. Thinning buffers around SR 70 would provide additional safety for egress routes in case of a fire.



Map Created by Miles Brooks 11/7/22





# BUCKS LAKE

## PAST TREATMENTS

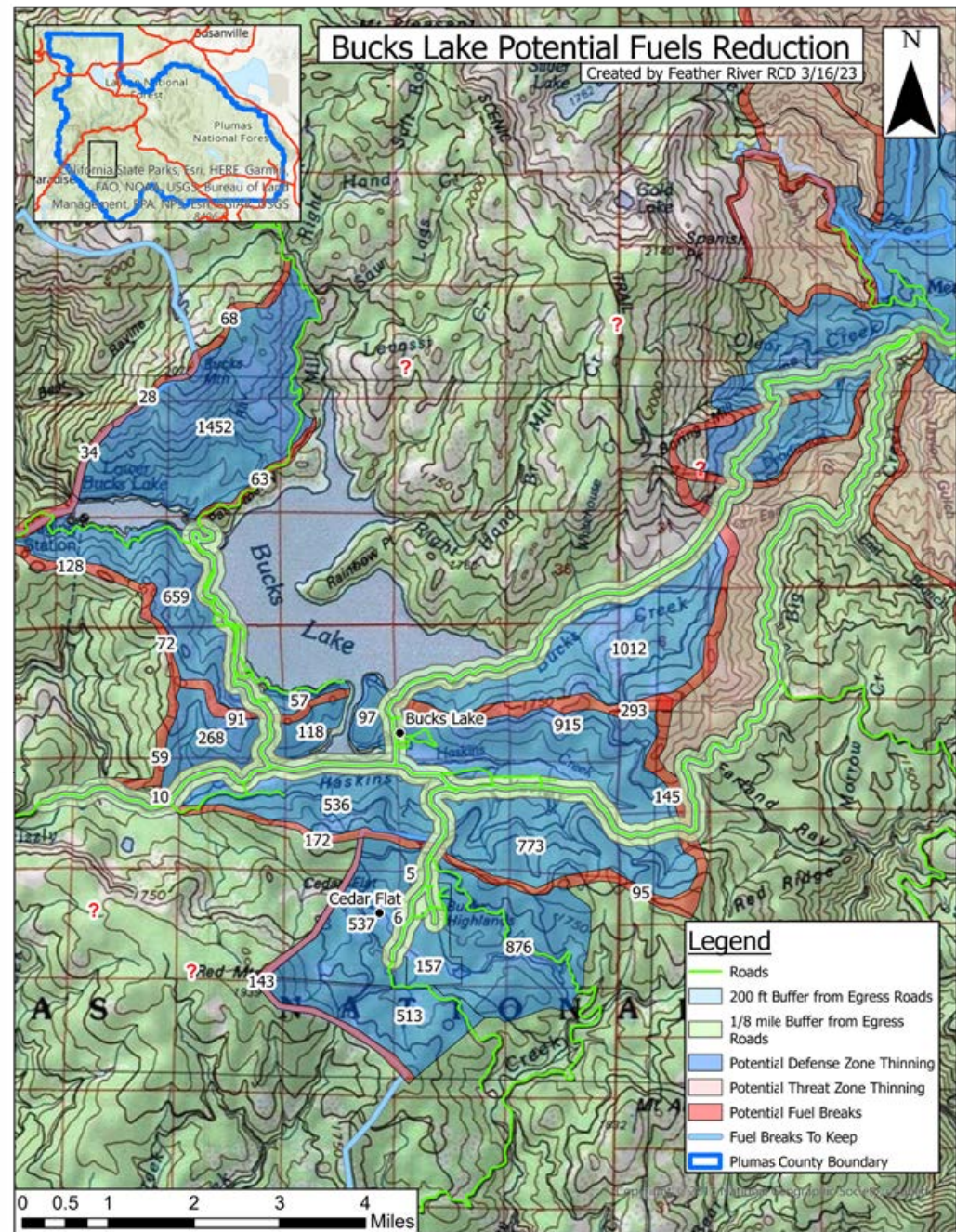
Bucks Lake refers to the community bordering Bucks Lake, including PG&E infrastructure, seasonal homes and vacation rentals, campgrounds, and several businesses. In the past thirty years there have been a handful of projects on Plumas National Forest and PG&E land around Bucks Lake. In 1995, the Forest Service commercially thinned timber on the ridge south of Bucks Lake. This area was replanted in 1998 and underwent herbicide release, precommercial thinning (PCT), piling, and pile burning in 2005. In 2006, a timber harvest occurred southeast of Bucks Lake as part of the Meadow Valley defensible fuel profile zone (DFPZ). In 2011, PG&E reforested areas along the southern portion of the lake. Between 2013 and 2020, the Forest Service worked on the Bucks Lake hazardous fuels reduction project, which includes PCT, salvage, harvest, commercial thinning, piling, and pile burning across the Bucks Lake area. In 2015 and 2016, the Forest Service thinned and yarded/removed biomass on the units on the ridge south of Bucks Lake (Spatial Informatics Group, 2022). A few notable fires have threatened the area in recent history, including the 1999 Bucks Fire approaching from the west, the 2020 North Complex Fire approaching from the southwest, and the 2021 Dixie Fire which burned in the Bucks Fire scar then continued northeast through the Bucks Lake Wilderness (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Recent fires have approached from the Middle Fork and the North Fork of the Feather River, up steep canyons from the south and west. Predominant winds come from the southwest. Biggest threat is from fires inside the community that may spread to neighbors (Callenberger & Lunder, 2004).

## FUELS REDUCTION

Bucks Lake has avoided burning in recent fire seasons, but there are high fuel loads in the surrounding forests. Fuels reduction in this area is necessary. Potential defense zone thinning spans between major access roads to potential fuel breaks on the ridges nearby. Defense zone thinning should surround the lake and its communities in order to protect this place from fire threats from the south and west. No thinning is proposed for the Bucks Lake Wilderness due to the restriction on motorized machines, though the area could benefit from fuels reduction. Potential defense zone thinning extends south to Cedar Flat because there are some private residences out there. Some potential fuel breaks follow existing Forest Service fuel breaks that should be maintained, whereas some potential fuel breaks mark new areas for fuel breaks. Refining for where exactly fuel breaks are located could be refined during the planning phase. All egress routes into and away from Bucks Lake are buffered to ensure that visitors and residents alike have safe routes out in case of a fire. Potential threat zone thinning along Big Creek road would connect Bucks Lake thinning to the Forest Service's Claremont project as well as potential Meadow Valley thinning. Creating continuous fuels reduction from Bucks Lake to Quincy would allow for safe egress and additional community safety in the area. The Forest Service's Protect project may treat federal property around Bucks Lake as well, but regular maintenance of any fuels reduction is essential to long term success of fuels reduction projects.



# BUTTERFLY VALLEY

## PAST TREATMENTS

Butterfly Valley is a small community of private landowners surrounded by Plumas National Forest. Between 1999 and 2005, the Forest Service completed broadcast burns and fuels reduction on the ridge southwest of Butterfly Valley. In 2000, 2003, and 2007, private landowners, including some industrial timberland owners, commercially thinned parcels to the south side of Butterfly Valley. On National Forest land directly south of Butterfly Valley Road, the Forest Service harvested timber in 2010, broadcast burned and pre-commercially thinned in 2016, and chipped and piled in 2019 and 2020. Since 2017 and continuing through 2022, the Forest Service has reduced fuels on land surrounding Butterfly Valley as part of the Butterfly Twain Fuels Reduction project. Fuels reduction treatments include hand thinning and piling, mechanical thinning, mastication, lop and scatter, and prescribed fire (Spatial Informatics Group, 2022). The 2021 Dixie Fire burned north of Butterfly Valley—through some areas that had been previously mechanically thinned (California Department of Forestry and Fire Protection, 2022). Fire suppression tactics, including a fuel break, halted the fire from damaging the Butterfly Valley community.

## FIRE THREATS

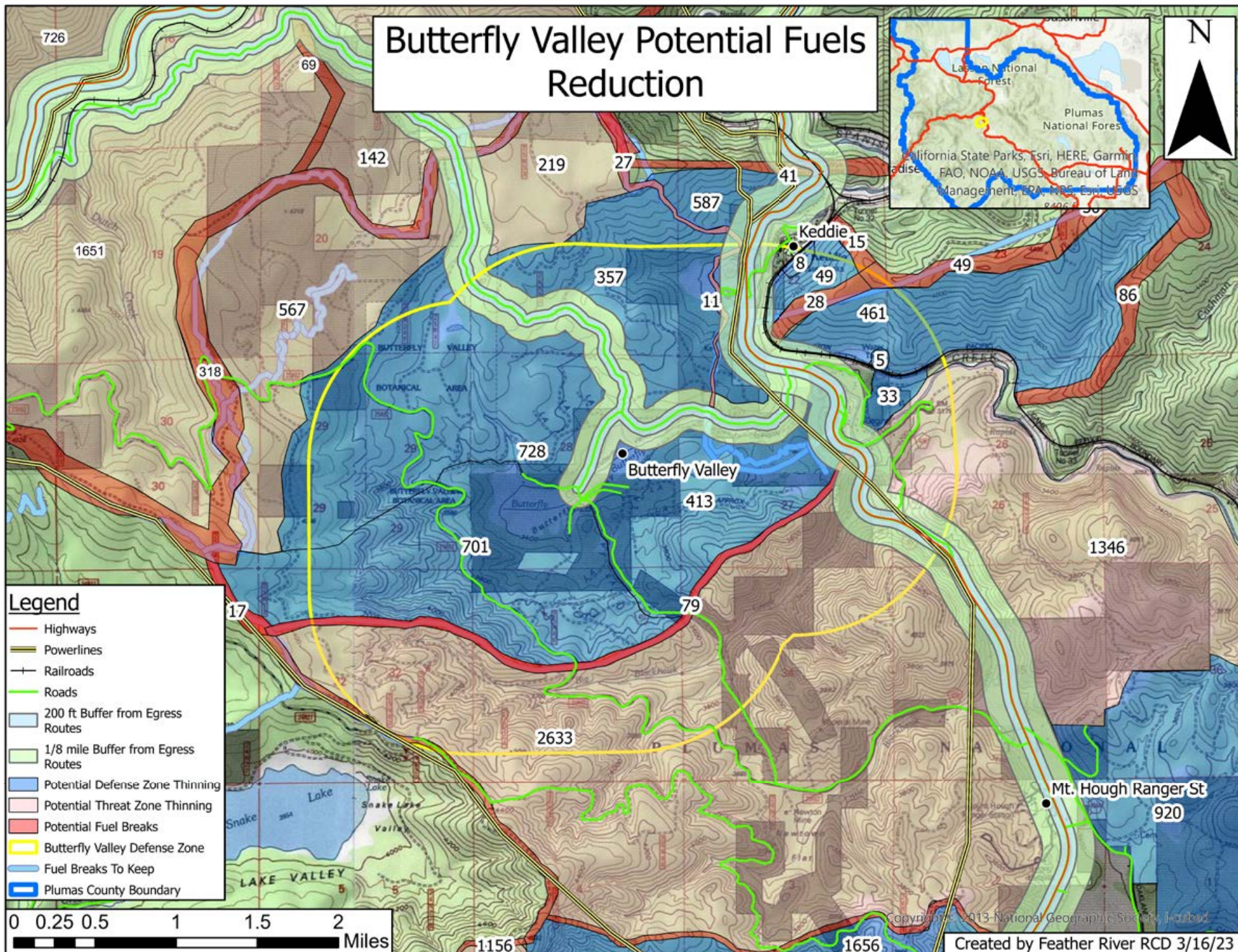
Butterfly Valley is vulnerable to wind driven fires originating in the NFFR canyon. Recent treatments have been done to reduce this risk, but areas remain vulnerable. The Butterfly Valley has an active community of land owners engaged in fuels treatments on private lands.

## FUELS REDUCTION

Public and private lands around Butterfly Valley have seen substantial recent treatments compared to other communities. In addition, proposed projects such as North Quincy would further reduce fuels in the vicinity. Potential defense zone thinning reflects areas within 0.5 to 1 mile of private property that should be regularly maintained to keep fuel levels down. Potential threat zone thinning ties into threat zone thinning of surrounding communities such as Quincy and Twain. Potential fuel breaks follow prominent ridges as well as existing Forest Service fuel breaks, which may need maintenance to be viable fuel breaks.



# Butterfly Valley Potential Fuels Reduction





# CANYONDAM

## PAST TREATMENTS

Salvage logging occurred south of SR 89 following the Chips and Dixie fire. Fuels reduction occurred north of SR 89 in 2009 and a fuel break was created by Collins Pine on land north of the SR (Spatial Informatics Group, 2022). However, the 2021 Dixie Fire burned most of the past treatment areas around Canyon Dam. Additionally the Dixie Fire followed a similar path as the 2012 Chips Fire in this area (California Department of Forestry and Fire Protection, 2022). Current restoration efforts include removing fuels burnt in the Dixie fire.

## FIRE THREATS

Historically fires have come from the south, though easterly winds could pose a threat in the future.

## COMMUNITY PERSPECTIVE

Priorities include the removal of hazard trees along Seneca Road and the maintenance fuel breaks to the south of the town including the Rush Hill DFPZ to the southeast.

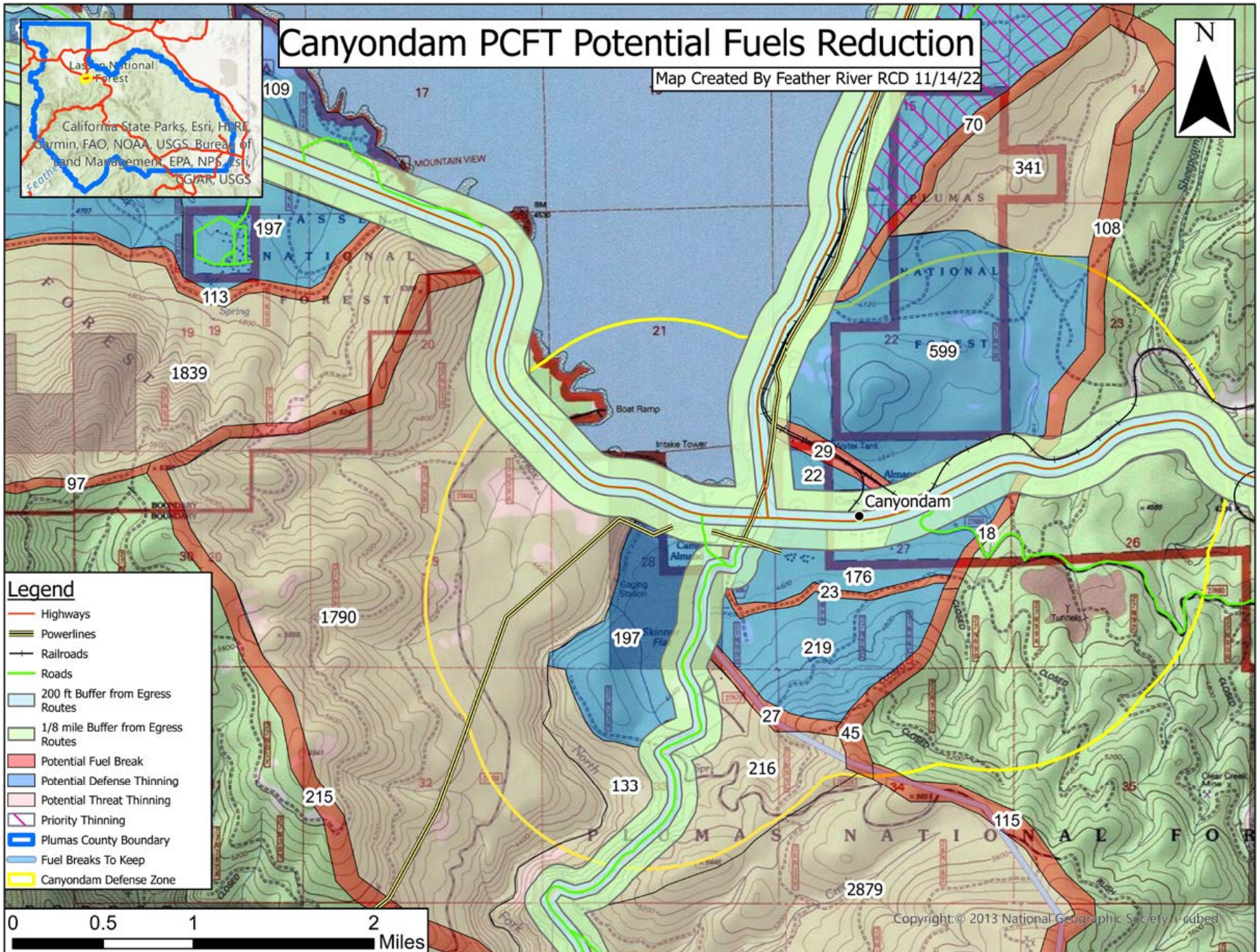
## FUELS REDUCTION

Potential fuel breaks and thinning surround Canyon Dam properties and tie into Seneca, West Shore and East Shore Lake Almanor potential thinning projects. One fuel break follows an existing fuel break called the Rush Hill DFPZ, which requires maintenance. Much of Canyon Dam burned in the Dixie fire, so priority will be brush control and hazard tree removal. Potential threat zone thinning extends the entire watershed south of the Lake Almanor dam. A potential fuel break also surrounds the railroad to the north for purposes of infrastructure protection.



# Canyondam PCFT Potential Fuels Reduction

Map Created By Feather River RCD 11/14/22





# CHESTER

## PAST TREATMENTS

The area surrounding Chester is primarily private industrial timberlands and Lassen National Forest. Fuels reduction, pre-commercial thinning (PCT), commercial thinning, and reforestation has occurred regularly. An existing fuelbreak constructed by Collins Pine company is directly west of town adjacent to the Collins Pine mill. Additionally SPI constructed a fuel break north of town, which did seem to help mitigate the spread of fire (Spatial Informatics Group, 2022). The 2021 Dixie Fire burned most of this area thus most historic treatment may no longer be relevant.

## FIRE THREATS

According to a resident, the “biggest threat [to Chester] is from the north. On the west, the 4-lane highway and airport slowed down the fire”. The Dixie fire approached Chester from the southwest.

## COMMUNITY PERSPECTIVE

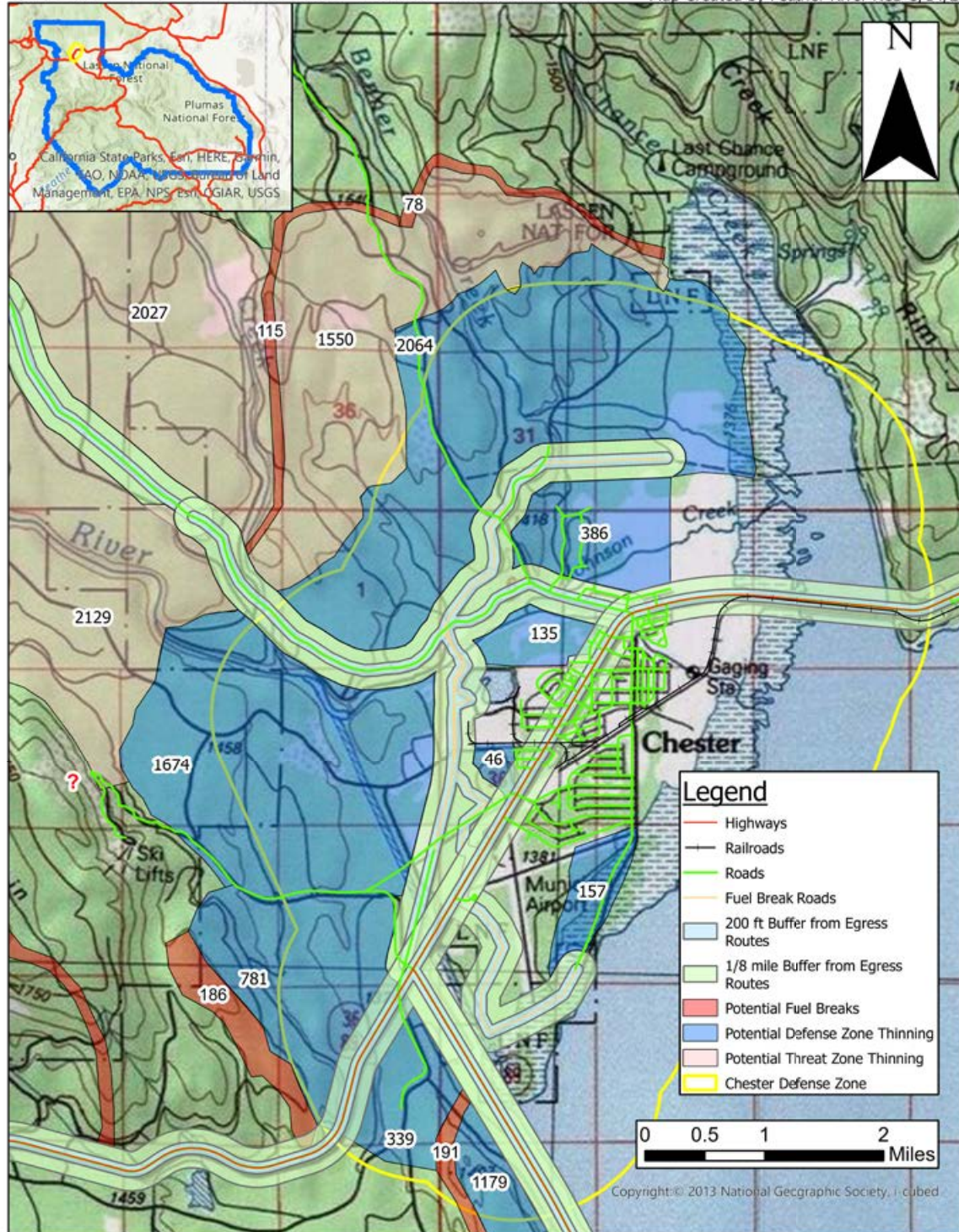
Priority is “Keeping the brush down [in burned areas]. Everything is coming back” post-Dixie Fire.

## FUELS REDUCTION

Fuel breaks around the town and buffers along major roads would help provide protection and egress for the Chester community. Additionally, thinning within the Defense Zone would slow the fire to assist fire suppression. Potential fuel breaks to the North address the resident’s concern of fire approaching from that direction. Dixie Fire burned most of the proposed thinning areas, so most fuels reduction work will prioritize brush control in those areas.

# Chester PCFT Potential Fuels Treatments

Map Created by Feather River RCD 3/14/23



“Biggest threat is from the north. On the west, the 4-lane highway and airport slowed down the fire—didn’t stop it, but I’ll take slowing it down.”

— CHESTER RESIDENT

“Anything that protects the road.”

— CHESTER RESIDENT



# CHILCOOT & VINTON

## PAST TREATMENTS

No known past fuels treatment in proposed treatment area. Fires have occurred in the vicinity with the most significant recent fires being the 2003 and 2017 Chilcoot fires which burned to the south. 2021 Sugar fire threatened from the north and northwest. Most fires in this area are caused by lightning (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Fast moving grass and brush fires. Winds in the Sierra Valley are the driving force of fire spread in this region (Callenberger & Lunder, 2004).

## FUELS REDUCTION

Similar to Beckwourth, Chilcoot-Vinton has a grass and sagebrush dominant landscape, which poses different threats and solutions than a mixed conifer landscape. Areas of potential defense zone thinning could undergo a combination of mastication, mowing, grazing, and prescribed fire to reduce fuels. Potential fuel breaks line the outside of the potential defense zone, however they could also border the inside edge between private properties and thinning zones. There is a small buffer of thinning around the railroad as that has potential for ignitions.



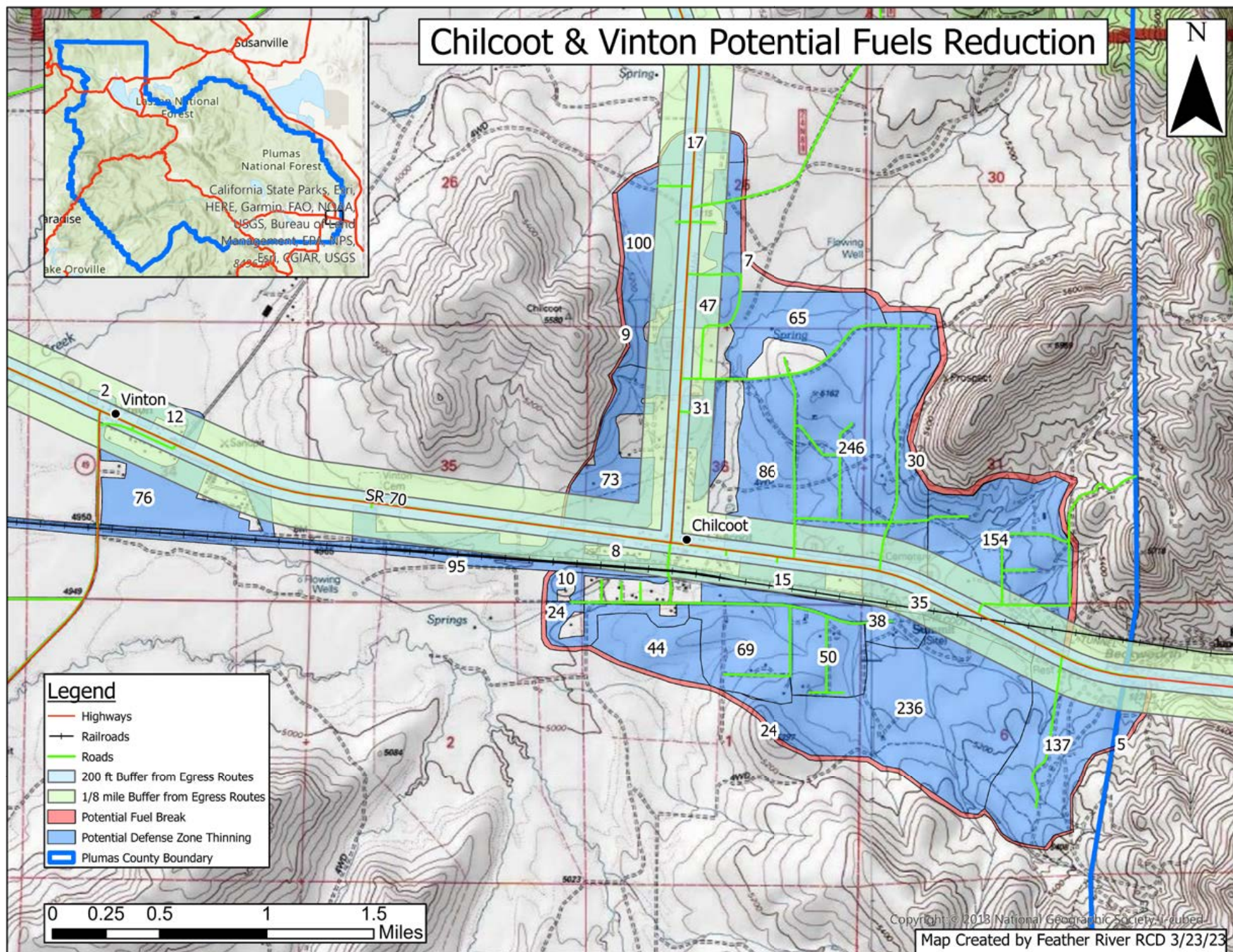
# Chilcoat & Vinton Potential Fuels Reduction



## Legend

- Highways
- +— Railroads
- Roads
- 200 ft Buffer from Egress Routes
- 1/8 mile Buffer from Egress Routes
- Potential Fuel Break
- Potential Defense Zone Thinning
- Plumas County Boundary

0 0.25 0.5 1 1.5 Miles



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Map Created by Feather River RCD 3/23/23



# CLARKS CREEK

## PAST TREATMENTS

Clarks Creek is a small collection of private residences east of Antelope Lake. It is surrounded mostly by US Forest Service land, and has regular fuels treatment and commercial harvest. Starting in 1997, Forest Service commercially harvested timber to the southeast of the community and pre-commercially thinned land on Stony Ridge to the east of Clarks Creek. In 2003, the Forest Service conducted PCT on the entire eastern edge bordering private property and continuing south. This area again underwent PCT and then commercial harvest in 2018 and 2019. Between 2004, small group selection harvests and site preparation including mechanical thinning occurred on scattered national forest areas to the west and south of private land. In 2012, USFS commercially thinned various small sections of land to the west and east of Clark's Creek. In 2018 some private properties received treatment. In 2018 and 2019, PCT and commercial thinning by the Forest Service occurred surrounding the Clarks Creek private parcels (Spatial Informatics Group, 2022). Recent fires in the area include the 2004 Stony and Cottonwood fires to the southeast, the 2007 Wheeler fire that threatened the area from the southwest; and the 2021 Dixie Fire that burned most of the area at high severity (California Department of Forestry and Fire Protection, 2022).

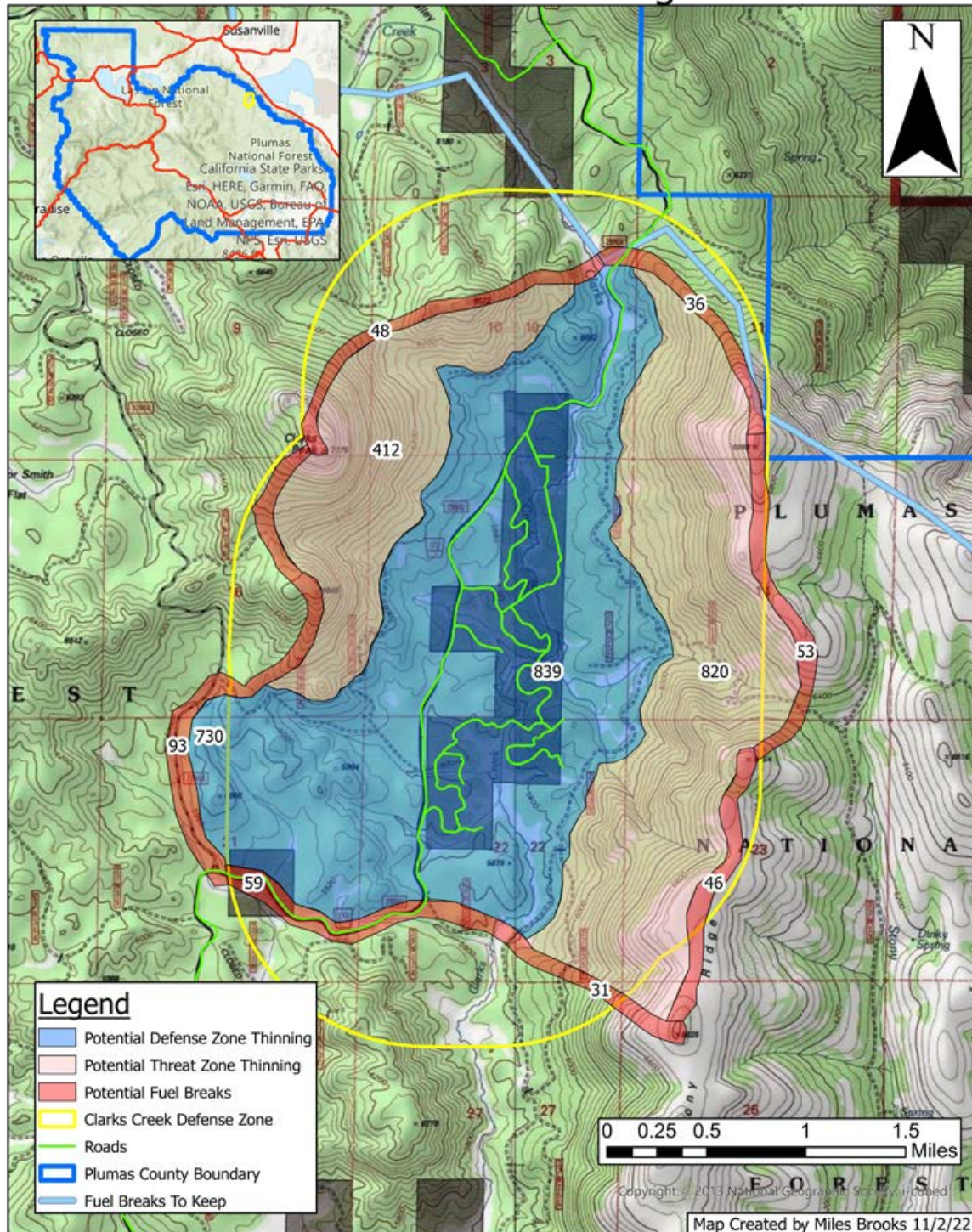
## FIRE THREATS

Standing dead fuels, understory regeneration, isolated area with limited suppression resources.

## FUELS REDUCTION

The Dixie Fire burned most of the area, which renders most of the past treatment irrelevant. Fuels reduction in the area will likely focus on brush control and removing dead fuels. The potential thinning outlined suggests creating a ring of ridgetop fuel breaks around the area, and thinning inside of the fuel breaks. Potential defense zone thinning prioritizes the fuels reduction on and around private properties in the area. Potential threat zone thinning extends to the ridgetop fuel breaks to add an additional buffer from future fires. Slope and topography may affect treatment options. Mechanical thinning, hand thinning, and prescribed fire are potential treatment options.

# Clarks Creek PCFT Potential Thinning and Fuel Breaks





# CRESCENT MILLS

## PAST TREATMENTS

Crescent Mills is a residential community situated on the western edge of Indian Valley. The greatest fire threat to the town is expected to come from the Indian Creek Canyon or west from the mountainous slopes leading towards Round Valley reservoir. The area surrounding Crescent Mills is predominantly National Forest land and private industrial timber, interspersed with private residential properties. Public land to the West of Crescent Mills, was pre-commercially thinned 2014, 2015, 2017, and 2020 as well as some pile burns between 2015-2018. In this area there were also commercial timber harvests in 2012, 2014, 2017, and 2020. South of town, on the south side of road A22, there were commercial group selection harvests on private timberland in 2015 and 2018. Additionally some reforestation took place on private land in the defense and threat zones between 2001 and 2018 (Spatial Informatics Group, 2022). The Dixie Fire burned through much of these areas at moderate to high severity in 2021.

## FIRE THREATS

Southwest winds typically drive fire towards Crescent Mills from the NFFR / Indian Creek canyon. The Dixie Fire followed that path.

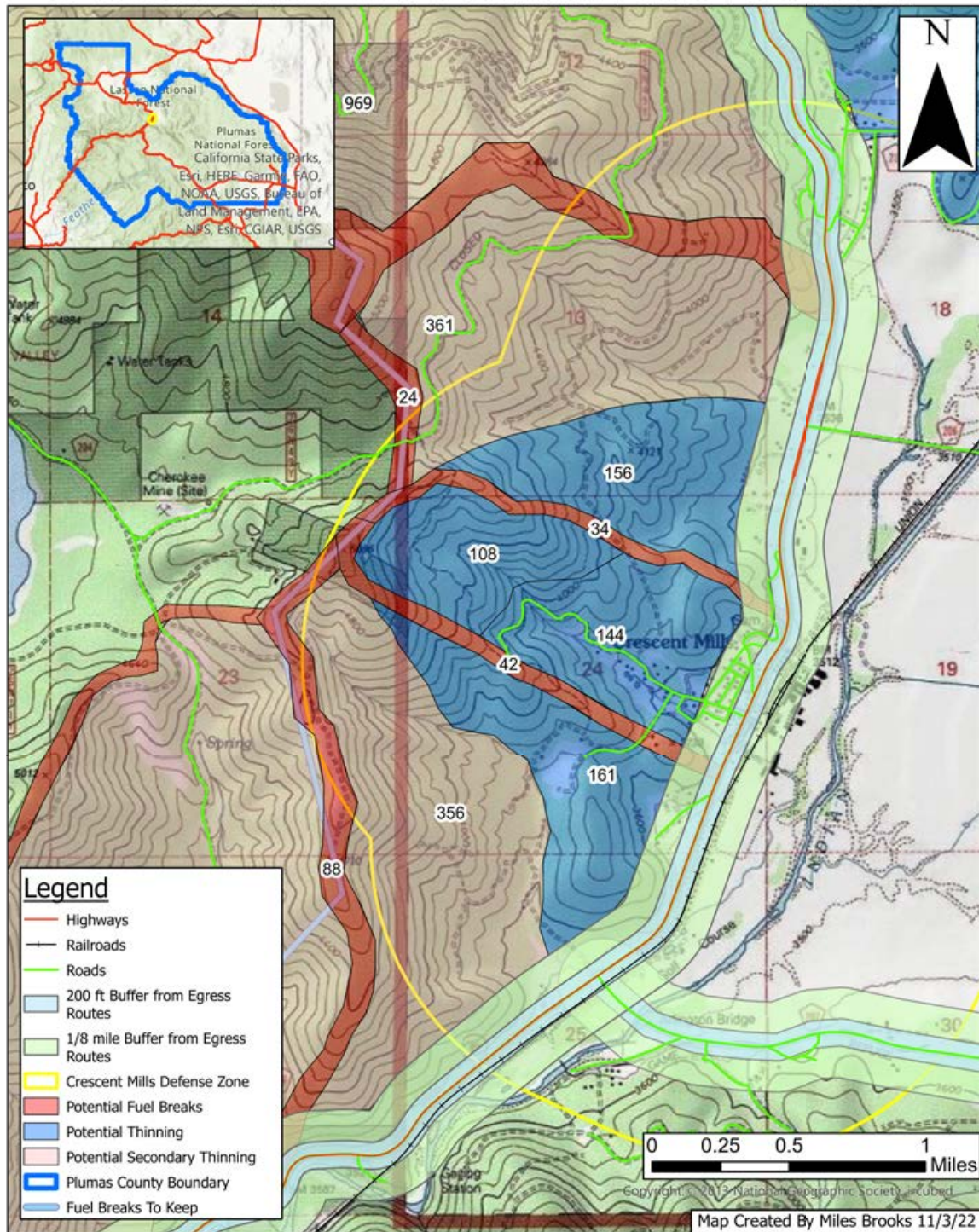
## COMMUNITY PERSPECTIVE

An area for priority treatment would be the high severity patches of dead standing timber between Crescent Mills and Round Valley reservoir.

## FUELS REDUCTION

Crescent Mills is susceptible to future wildfires even after Dixie Fire burned close to the community. Future fuels reduction should focus on surrounding the community with thinning and fuel breaks. Ideally thinning would connect to fuels reduction down the canyon towards Indian Falls and the Greenville Wye to create a continuous reduced fuel load, however, topography makes this proposal difficult. Fuel breaks follow ridgelines around the community and connect to fuel breaks created by the Forest Service. Maintenance of USFS fuel breaks is important to long term protection of this community and others in the county. Proposed fuel breaks also tie into other potential fuel breaks around Greenville and Indian Falls to form a landscape level fuel break. Potential defense zone thinning prioritizes thinning close to the community, whereas threat zone thinning includes surrounding forest land that could make the community susceptible to future fire.

# Crescent Mills PCFT Potential Fuels Reduction





# C-ROAD

## PAST TREATMENTS

C-road is a census designated place between the Middle Fork Feather River and SR 70. It is predominantly private property. In 2004, the Forest Service conducted PCT on public land to the east of the community. Between 2006 and 2009, hazardous fuels reduction occurred on private land as part of Eastern Plumas HFR and C Road HFR projects. In 2013 and 2014, the Forest Service conducted more PCT on public land to the west of the community. In 2018 and 2019, Plumas County Fire Safe Council removed hazardous fuels on private property throughout the community (Spatial Informatics Group, 2022). The C-Road project is expected to be expanded and continued in 2023-2024.

## FIRE THREATS

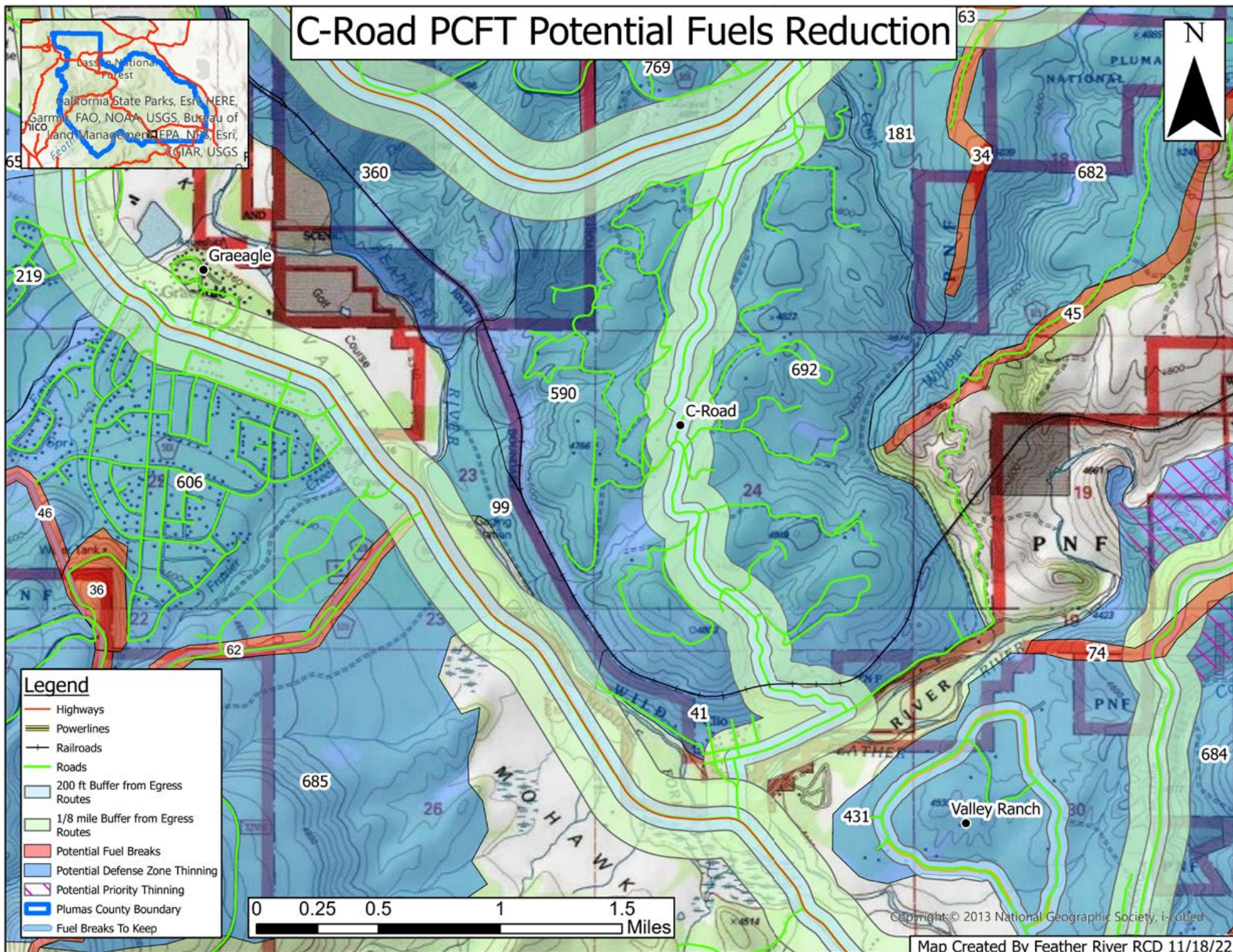
Dominant wind comes from the southwest. Untreated private land remains the largest threat in the area due to build up of fuels that could drive fire (Callenberger & Lunder, 2004).

## FUELS REDUCTION

C-road lacks continuous fuels reduction due to patchwork of previous fuels reduction on private land. Potential defense zone thinning encompasses the entire community and surrounding public land to demonstrate the need for continuous fuels reduction between neighboring communities. Fuel breaks created by SR 70, SR 89, and C-road could further help protect the community as well as provide egress routes for emergency evacuation. Current projects are planned to improve this.



# C-Road PCFT Potential Fuels Reduction







Views of fuel loads off of C-Road with many small trees and high density.

# CROMBERG & SLOAT

## PAST TREATMENTS

The greater Cromberg and Sloat areas are predominantly surrounded by the Plumas National Forest to the north and east and private industrial timberland to the south and west. Plumas County Firesafe Council completed commercial thinning on residential properties around these communities in 2006 and 2011. Private industrial timber companies commercially thinned land to the west of Sloat and west of Rattlesnake Creek road in 2008 as well as an area between SR 70 and the railroad tracks in 2010. Southeast of Cromberg, the Jackson project completed thinning on public land between 2012 and 2015. Between the years 2012 and 2018, the Big Hill project treated fuels and commercially harvested timber on public land north of Sloat and surrounding Rattlesnake Creek road. PCFSC oversaw the mastication of private timber land to the west of Rattlesnake Creek road in 2015 (Spatial Informatics Group, 2022). Fire history of the area includes the 1981 Sloat Fire that burned north of Long Valley, and the 2020 North Complex fire that burned up to private timber land to the west of Sloat (California Department of Forestry and Fire Protection, 2022).

## COMMUNITY PERSPECTIVE

Some fuels reduction projects in the area are over or approaching 10 years since last treatment. These areas should be maintained for brush control and understory regeneration. Additionally the Sloat fire scar to the northeast of the communities has not been treated since 1981, and it is now a dense brush field. Past dozer lines and fuel breaks should be maintained.

## FIRE THREATS

The dominant winds come from the southwest. Embers are a threat. According to residents, private property defensible space is a threat—especially north of the Highway. There are neighbors who are reluctant to allow treatments, although recent fires have changed some minds.

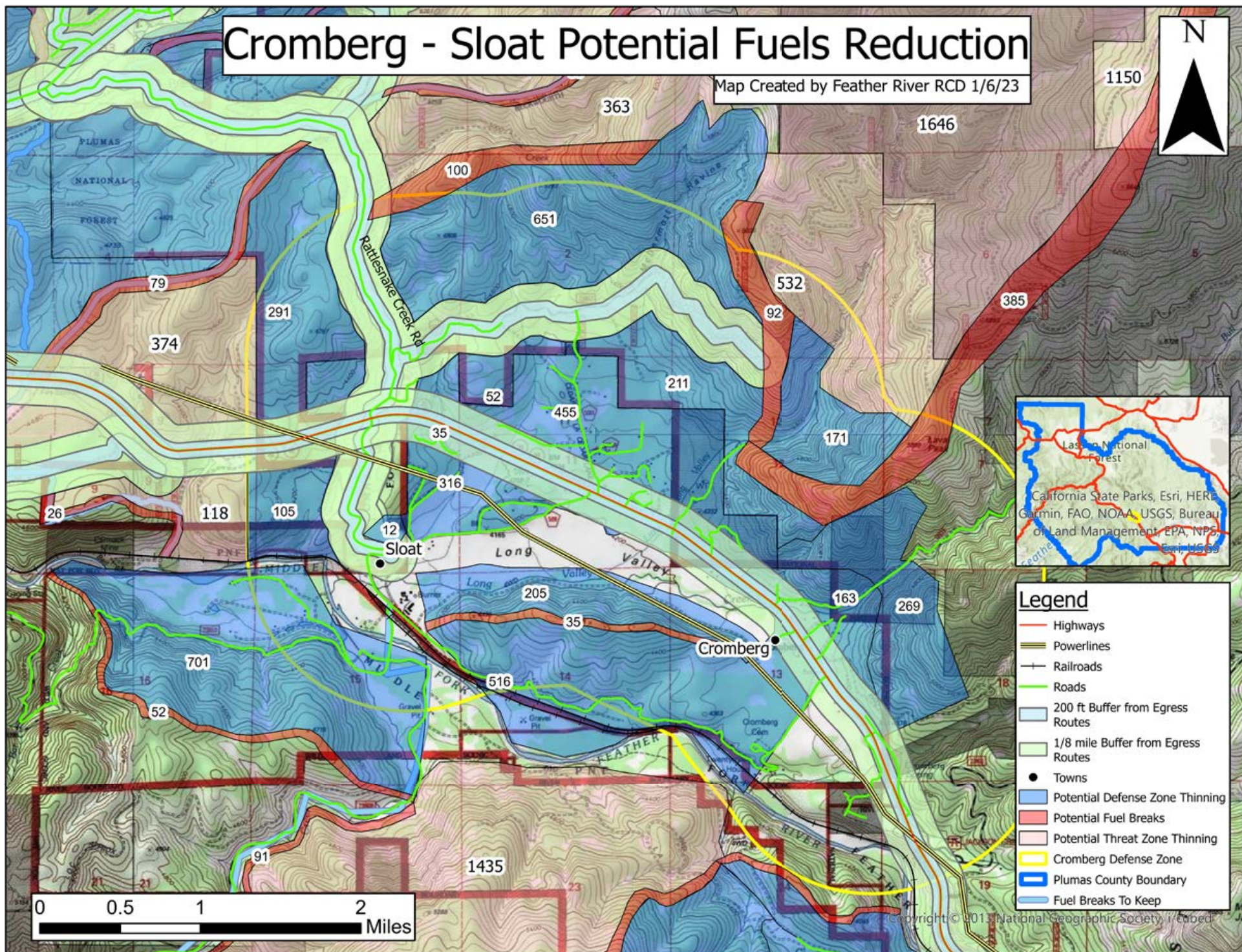
## FUELS REDUCTION

The communities of Sloat and Cromberg are along the SR 70 corridor between Quincy and Portola, where there are many residential properties and little fire history. The long interval between fires indicate potentially high fuel loads that could drive fire and threaten surrounding communities. Reducing fuels in this corridor is important. Fuels reduction projects should start close to communities and work outwards to provide residents with the most protection. This is reflected with potential defense zone thinning zones, which surrounds the community on both federal and private land. Potential fuel breaks surround the community on ridgetops. Fuels reduction to the west of Sloat down the Middle Fork Feather River is important to slow potential wildfires from approaching from that direction, as the North Complex fire did in 2020. Fuel breaks could extend all the way up to Grizzly Ridge and tie into existing fuel breaks, or stay closer to the community. Potential threat zone thinning extends beyond the defense zone into areas where embers could catch and threaten the communities. According to residents, most of the surrounding hillsides are very steep, so hand thinning and prescribed fire may be the best options for fuels reduction in this area. Additionally, residents believe a green waste program would be beneficial so they could dispose of cleared green waste in an efficient and incentivizing initiative instead of having to carry off their properties themselves.



# Cromberg - Sloat Potential Fuels Reduction

Map Created by Feather River RCD 1/6/23





# DIXIE VALLEY

## PAST TREATMENTS

Dixie Valley is surrounded by National Forest land, which has been commercially thinned and treated a few times over the past 25 years. In 1997, 1998, and 1999, the Forest Service thinned and harvested timber from areas to the north, west, and east of the Dixie Valley private parcels. More recently in 2018, the Forest Service lit low intensity prescribed burns to reduce surface fuels on areas in the southeast and northwest portions of Dixie Valley. Also in 2018, the Forest Service harvested timber along Dixie Valley Road on the way towards Frenchman Lake. In 2019, Plumas County Fire Safe Council helped private landowners masticate their private parcels within Dixie Valley (Spatial Informatics Group, 2022). Historic fires include the 1999 Horton 2, which burned the southern part of Dixie Valley, and the 2021 Dixie Fire, which burned the northern portion of Dixie Valley, but seemed to be slowed by the areas that were prescribed burned a few years previous (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Wind and topography-driven fires (Callenberger & Lunder, 2004). Dixie Fire approached from the northwest and Horton 2 approached from the south.

## FUELS REDUCTION

Dixie Valley has medium density conifer forest as well as a mix of sagebrush and grassland, which creates a mosaic of vegetation types. These different vegetation types will require different approaches to fuels reduction, which may include mechanical thinning, hand thinning, mastication, and prescribed fire. Some areas are not included in potential thinning zones due to low density vegetation. Thinning around private parcels at the bottom of the valley should be prioritized before treating areas of higher elevation. Buffering Dixie Valley Road would give residents safe egress in case of a fire. Potential fuel breaks surround the valley following prominent ridgelines around the area. An additional fuel break could also be implemented around private parcels. Areas between Dixie Valley and Frenchman Lake to the east could also receive thinning as there are a handful of private properties there. Potential threat zone thinning falls outside of the 1 mile defense zone, but could also use treatment to prevent fires from spreading over the ridge or into the valley from the west or east respectively.



**Dixie Valley Potential Fuel Breaks and Thinning**

**Legend**

- Roads
- 200 ft Buffer from Egress Roads
- 1/8 mile Buffer from Egress Roads
- Potential Defense Zone Thinning
- Potential Threat Zone Thinning
- Potential Fuel Break
- Dixie Valley Defense Zone
- Plumas County Boundary
- Fuel Breaks To Keep

**Scale:** 0 0.5 1 2 3 Miles

**Inset Map:** Plumas National Forest, California State Park, Esri, HERE, Garmin, FAI, NOAA-USGS, Bureau of Land Management, USA, NPS, Esri, USGS

**Map Labels:** Dixie Valley National Monument, Dixie Mountain, Dixie Valley Road, Dixie Valley Defense Zone, Plumas County Boundary, Fuel Breaks To Keep, Reconnaissance

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**Created By:** Miles Brooks 9/19/2022

# GENESEE VALLEY

## PAST TREATMENTS

Genesee Valley is located southeast of Indian Valley. Private residences and ranches make up most of the valley floor, but the surrounding area is largely owned and managed by the Forest Service. In the past 15 years many small fuels reductions have occurred on and around private property in the valley. In 2007, the Forest Service constructed a fuel break that spans from the west of Genesee Valley up to the peak of Mount Jura. In 2008 and 2013, the Forest Service used prescribed fire to reduce surface fuels behind some private properties on the north side of the valley. Between 2009 and 2011, PCT, piling, and pile burning occurred behind other private properties. In 2015 and again during the 2021 Dixie Fire, the Forest Service managed wildfires for fuels treatment and resource benefit. In 2020 and 2021, hand thinning, mastication, and other mechanical thinning occurred on private properties on the west and east ends of the valley (Spatial Informatics Group, 2022). In 2021, the Dixie Fire burned much of the land surrounding the valley (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Dixie Fire approached from Indian Valley to the north and northwest, and made an uphill run on the south side of the valley.

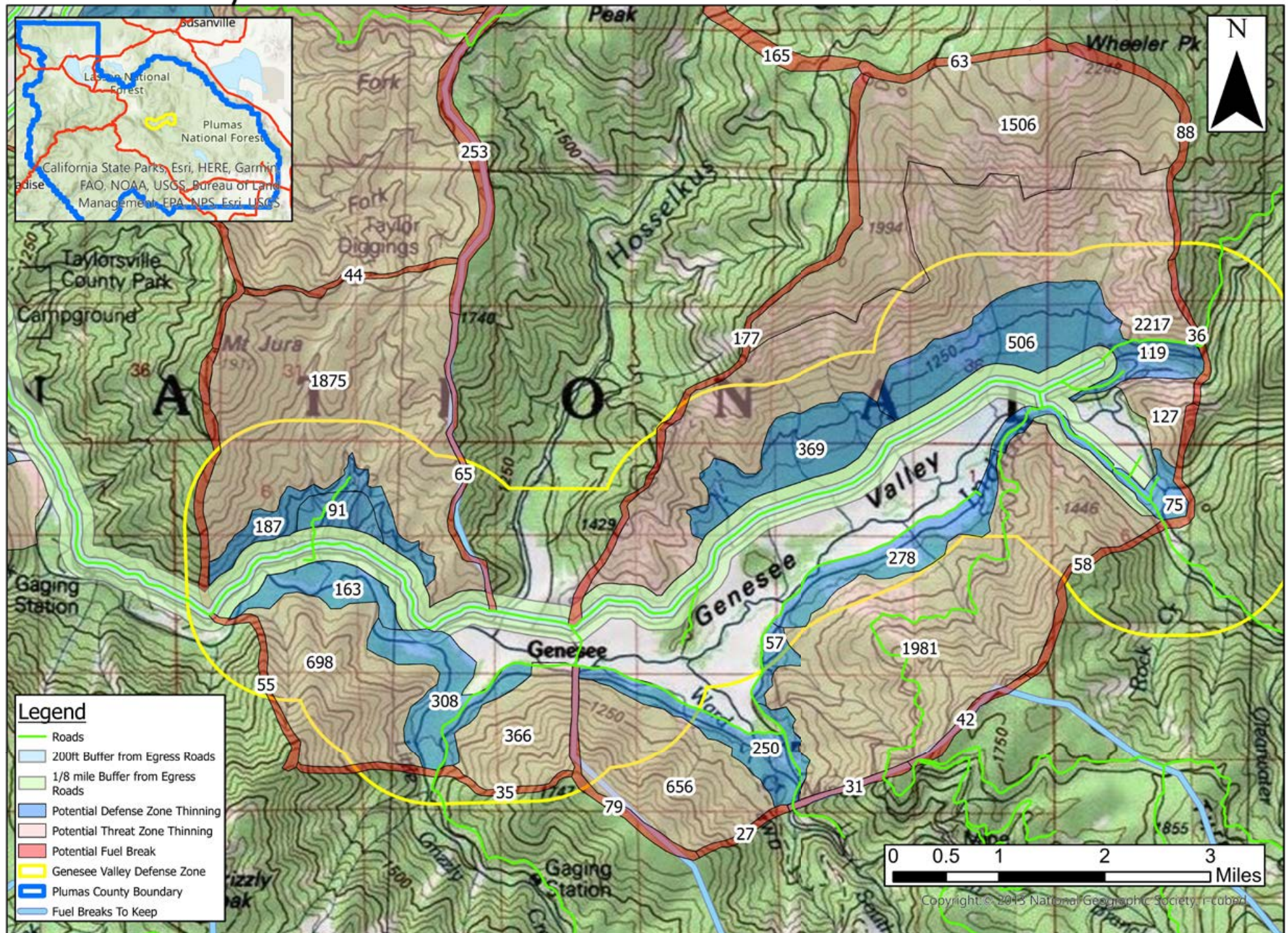
## FUELS REDUCTION

To help protect the community and residences of Genesee Valley, landscape-wide fuels reduction is necessary. Some terrain may not be suitable for all types of fuels reduction, but a combination of hand thinning, mechanical thinning, and prescribed fire could be used to help achieve these goals. Potential defense zone thinning spans the lower elevations around the valley. Due to steep topography and low density of residences, potential defense zone thinning does not extend a full mile from the 'urban core,' but instead creates a buffer of reduced fuels around private property. Extending from where the defense zone thinning ends to the potential ridgetop fuel breaks, potential threat zone thinning includes areas within the Genesee Valley 'freshed' that could provide an additional safety buffer. Potential fuel breaks follow ridgetops surrounding the valley. Some follow fuel breaks that already exist on Plumas National Forest, but require regular maintenance; other fuel breaks would require new construction. As the main egress route for the area, Genesee Valley Road should be surrounded by thinning to allow for safe travel. Most of the potential treatment areas burned in the Dixie Fire, therefore work in the near future would include brush control and reducing standing dead fuel.



# Genesee Valley PCFT Potential Fuels Reduction

Map Created By Miles Brooks 11/7/22





# GOLD MOUNTAIN & IRON HORSE

## PAST TREATMENTS

Gold Mountain CSD is surrounded by Plumas National Forest to the east and north, and Graeagle Land & Water property to the south. Query of past treatments on private and public land have revealed a few relevant fuels reduction projects. In 2000 and 2001, the Forest Service harvested timber north of Gold Mountain and West of Iron Horse to create a fuel break. Between 2004 and 2006, there was a series of precommercial thinning, commercial thinning, and pile burning north and north east of the Gold Mountain community as part of the Mabie Defensible Fuel Profile Zone (DFPZ). In 2009, Plumas County Fire Safe Council helped create a fuel break on Graeagle Land & Water land south of Gold Mountain. Most recently since 2018, private properties throughout Gold Mountain CSD have been treated via mastication (Spatial Informatics Group, 2022). The community is working to treat additional high risk properties.

## FIRE THREATS

The predominant wind direction is from the southwest. The historic fire threat vector is from the southwest up the Middle Fork Feather River canyon, where lightning, railroad, and powerlines may cause ignitions. The last fire in Gold Mountain was in 1958 and it approached the community from the southwest (California Department of Forestry and Fire Protection, 2022). Other threats include both private land (Graeagle Land and Water land) to the southwest and public (PNF) land to the east and west that are dense and lack maintenance. Additionally the community only has one main egress route (A15), which is a risk for residents.

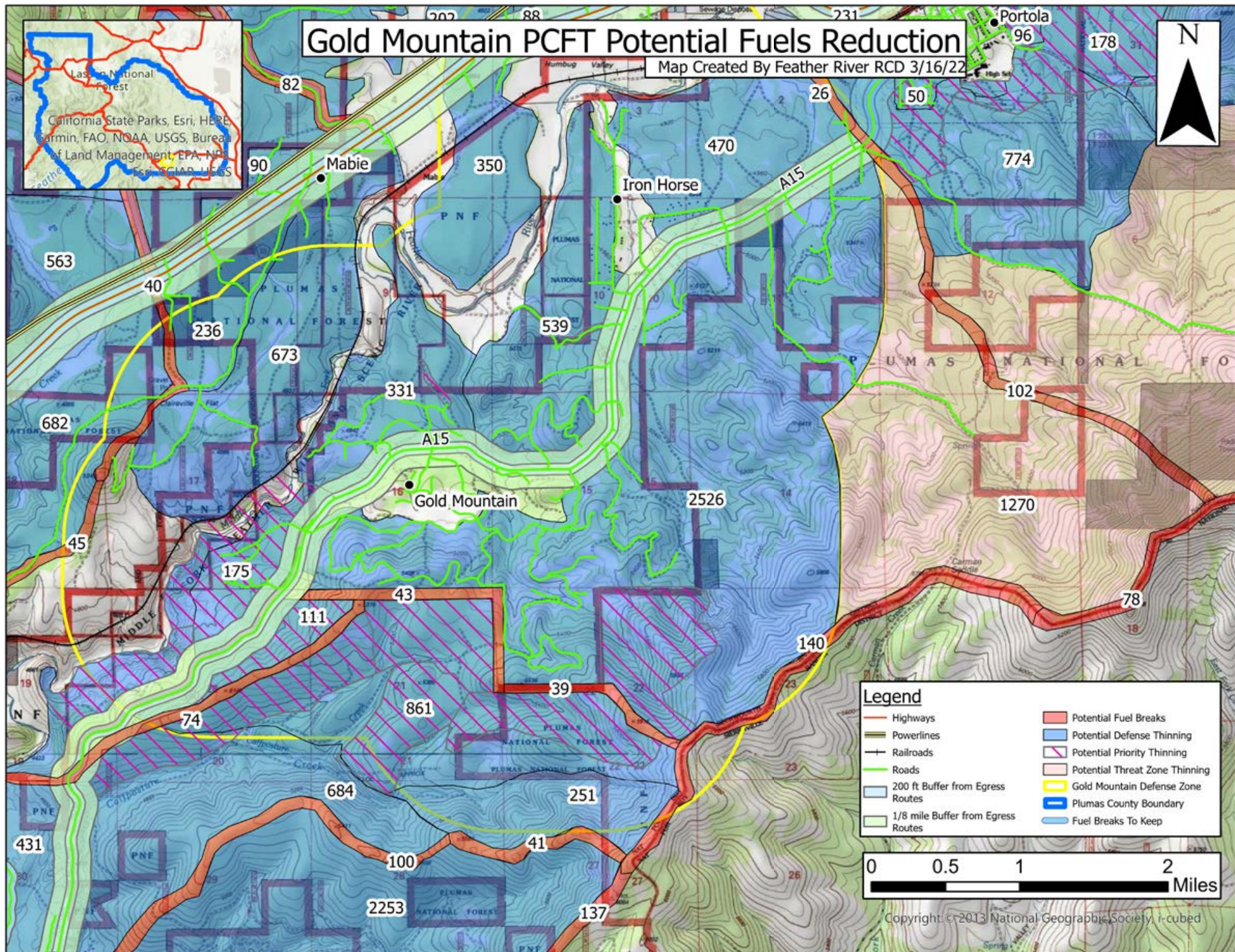
## COMMUNITY PERSPECTIVE

According to residents, there are a few main priority areas. Egress routes such as A15 and potentially establishing alternative egress routes. Private properties within the community with high density of fuels. Maintaining a fuel break to the south of the community. Thinning on National Forest and Graeagle Land & Water land to the southwest of the community, particularly in the Middle Fork Feather River canyon. Fire access roads on the north side of the community

## FUELS REDUCTION

This project proposes that the entire Middle Fork Feather River canyon (from Clio/Valley Ranch to Portola) should undergo thinning. Due to the long departure from fire and high vegetation density (USDA Forest Service et al., 2022), this area is very prone to future wildfire. Potential defense zone thinning in the canyon and surrounding landscape would mitigate the wildfire risk to these communities. Potential threat zone thinning is within the watershed but greater than one mile from the urban core. This includes the upper slopes of Beckwourth Peak. Potential fuel breaks follow dominant ridges in the landscape, which may slow wildfires or create access for wildfire suppression. The Plumas National Forest's Protect plan would treat public lands in this area, though regular maintenance should follow up any initial treatment. Combined with private land fuels reduction, this area would have a significantly lower fire risk.









“A15 is the only egress road. It needs to be clear so that folks can get out safely if there is a fire up or down the canyon.”

— **GOLD MOUNTAIN CSD RESIDENT**

An area along County Road A15 southwest of Gold Mountain with a high fuel load.



# GRAEAGLE

## PAST TREATMENTS

Around Graeagle, the three main land owners are the Forest Service, private timber industry, and Graeagle Land & Water. Over the past 15 years, they all have treated or planned to treat their lands. On private industry land to the west of Smith Creek Ranch, selection harvests occurred in 2008 and group selection and reforestation occurred in 2014. On Graeagle Land & Water land, commercial thinning and fuel break construction around town occurred between 2008 and 2011, including a Plumas County FireSafe Council project in 2009. To the south of town, salvage logging and fuel break creation occurred in 2018. On Forest Service land, the Lakes Basin project began in 2019 and plans to continue into 2025. The project includes PCT and commercial thinning to the southwest of Graeagle (Spatial Informatics Group, 2022).

## COMMUNITY PERSPECTIVE

According to some residents, thinning on private industrial timberland to the West of Smith Creek Ranch and on Graeagle Land & Water throughout the community is a priority. Saplings and ladder fuels in these areas have increased since last treatment 12-15 years ago. Additionally, residents would like to see egress routes and fuel breaks behind residences to be cleared sooner rather than later in case of a threatening fire.

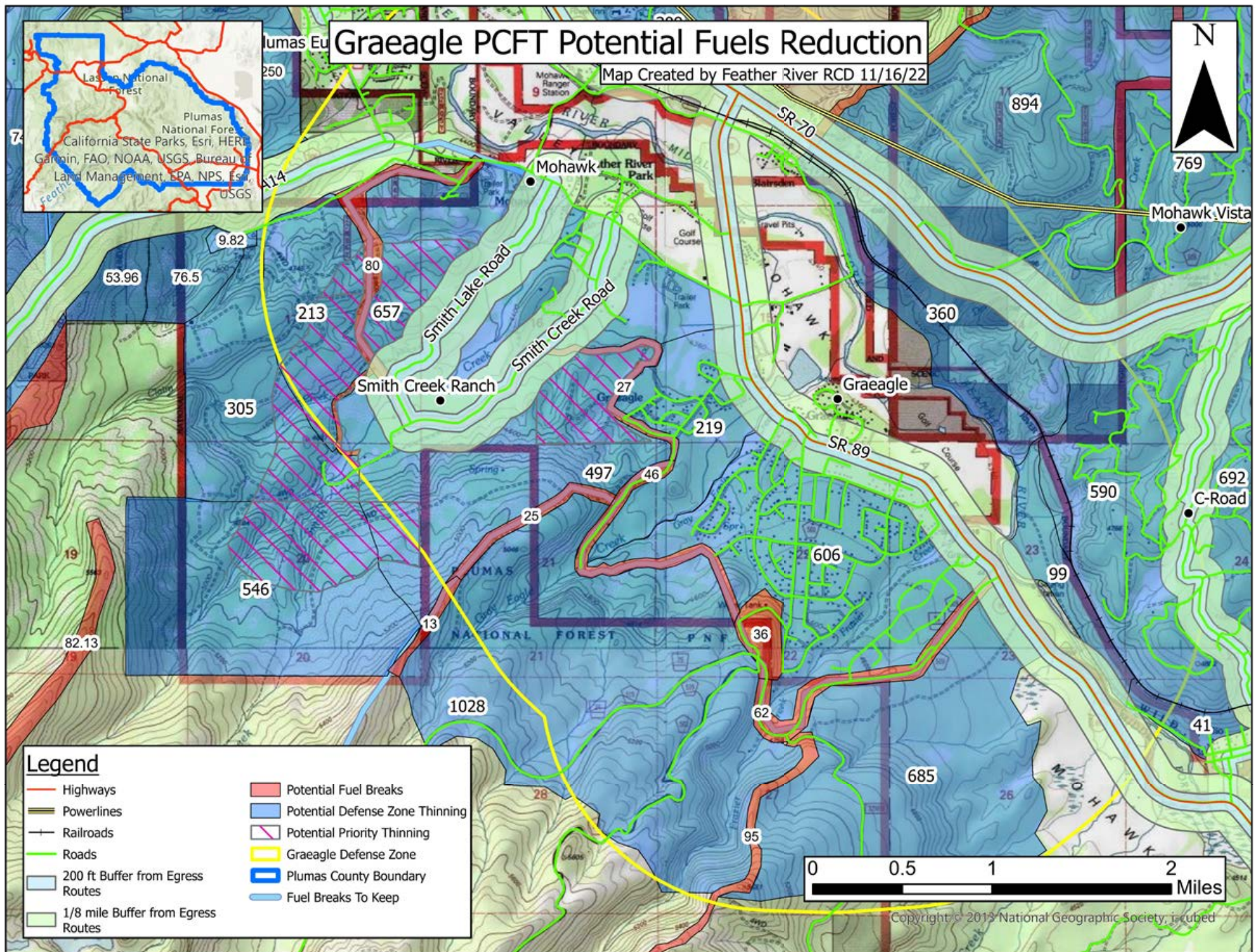
## FIRE THREATS

Untreated private land (residential, industrial, and Graeagle Land & Water) poses a risk to the Graeagle and Smith Creek Ranch communities. Predominant winds in the area come from the southwest.

## FUELS REDUCTION

The Graeagle community and surrounding areas have seen a decent amount of fuels reduction in the past. The key is to maintain those areas of fuels reduction regularly so that fuel loads remain low. Graeagle Land and Water and private industrial timberlands close to town have had a 12-15 year interval since last treatment, so they should be re-treated. Potential defense zone thinning should also occur on private residential properties, although fuels reduction activity may be limited due to the density of houses. Most of the proposed potential fuel breaks follow Forest Service's fuel breaks, which surround the west to south side of the community. Other fuel breaks follow major ridges in the area. Residents expressed desire for fuel breaks behind the community in addition to potential thinning for extra protection. Egress routes such as SR 89, Smith Creek Road, and Smith Lake Road should be thinned up to an 1/8 mile to provide residents with means of evacuation in case of an emergency. These egress routes also connect to fuel breaks, creating a fuel break that surrounds the community.









Graeagle Land and Water property that was thinned in 2011, but now small clusters of trees and saplings are coming back. This area falls within the proposed defense zone thinning.



An example of high fuel loads on private property along Smith Creek Road.

# GREENHORN & SPRING GARDEN

## PAST TREATMENTS

The area directly surrounding Greenhorn is owned by residents or the Greenhorn Ranch. To the east of the community is federal Forest Service land. To the west of Greenhorn and extending to the west of Spring Garden is private industrial timberland. Private industrial timberland west of Spring Garden was commercially harvested in 2003 and reforested in 2015. Patches of private industrial timberland between Spring Garden and Greenhorn were commercially harvested in 2004, 2008, and 2016 and reforested in 2004 and 2016. In 2010, Plumas County Fire Safe Council helped commercially thin private residential or vacant lots within Greenhorn. On public land, the Forest Service conducted PCT north of Greenhorn in 2010, PCT south of Greenhorn along the ridge between Sloat in 2011, and commercial thinning along SR 70 near Lee's Summit in 2013. The area to the south of Greenhorn was commercially harvested in 2017. Other forms of thinning or commercial harvest happened in Greenhorn in 2016 and senior defensible space work occurred in 2020 (Spatial Informatics Group, 2022). Fire history in the area includes a small human started fire that burned 480 acres northeast of Greenhorn in 1990, and the North Complex fire that burned everything west of Spring Garden and SR 70 (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

North Complex fire approached Spring Garden from the west, up the Middle Fork Feather River canyon. Fires could make uphill runs from the highway or MFFR canyon towards the community (Callenberger & Lunder, 2004).

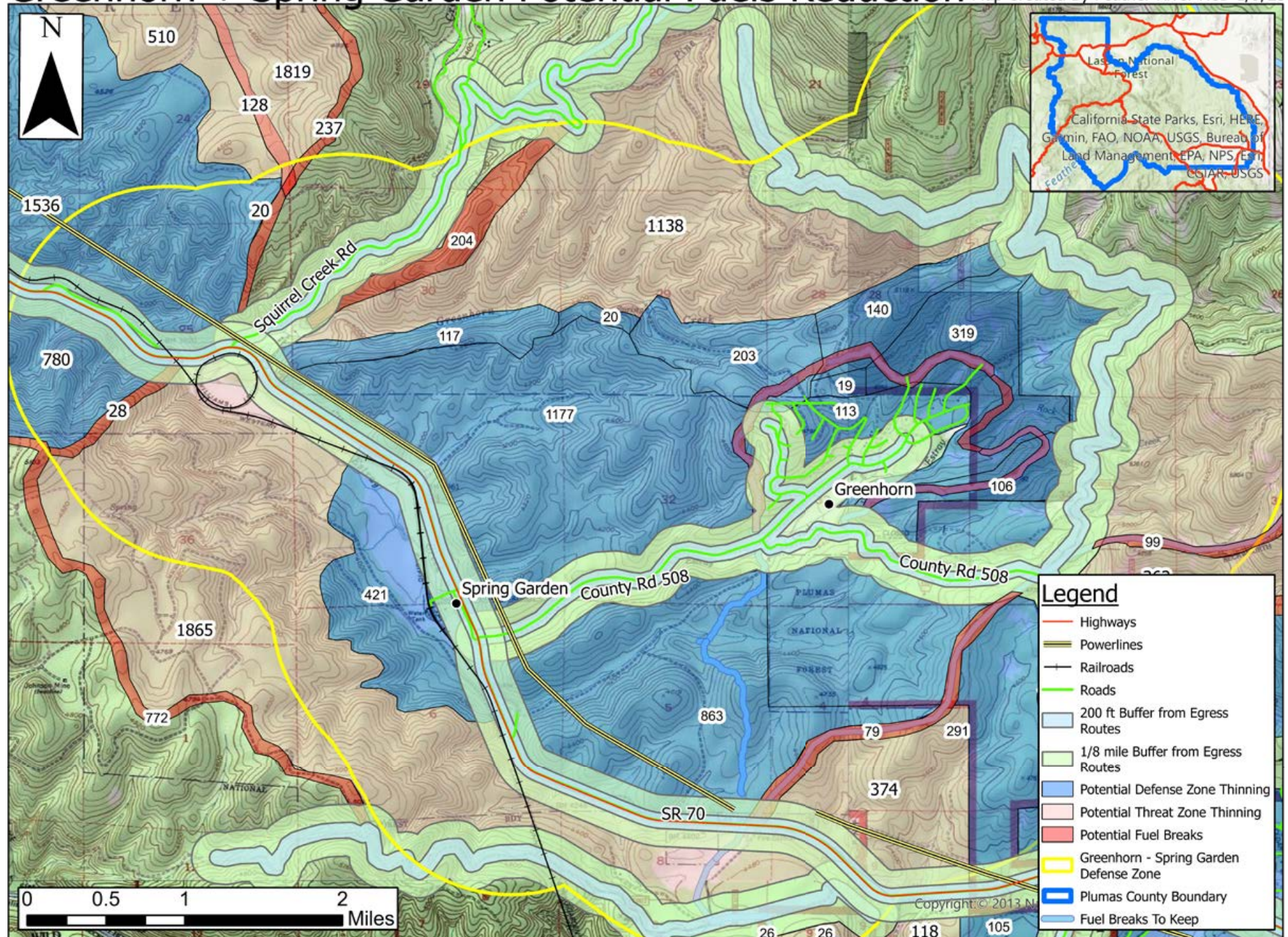
## FUELS REDUCTION

Existing Forest Service dozer lines immediately surround the community of Greenhorn. This could be a fuel break to continually maintain to provide a layer of protection for the community. Additionally, roads in and out of Greenhorn (County Road 508) are buffered to allow safe egress and create additional fuel breaks. Within Greenhorn, there are private parcels that would benefit from fuels reduction to prevent threats of embers creating a spot fire in the community. From the fuel break surrounding Greenhorn, potential defense zone thinning extends out towards SR 70 to the West, towards a potential ridgetop fuel break and Forest Service dozer line to the south, and a potential forest road fuel break to the north and east. Potential defense zone thinning could tie into the defense and threat zone thinning of Sloat, Cromberg, and Massack. Defense zone thinning also surrounds Spring Garden, which will need fuels reduction treatment post-North Complex fire to control brush and remove standing dead fuels. Potential threat zone thinning extends beyond defense zone thinning to create a landscape with continuous fuels reduction. Thinning extends all the way to Squirrel Creek Rd because of a preexisting dozer line and the boundary of a Forest Service Potential Wildfire Operational Delineation (POD). Fuel breaks surround the whole exterior of potential thinning as well as offer redundancy within treatment areas that could act as holding line or strategic boundaries for prescribed fire.



# Greenhorn + Spring Garden Potential Fuels Reduction

Map Created By Feather River RCD 1/9/23







Untreated forestland outside of Greenhorn on County Road 508.



# GREENVILLE

## PAST TREATMENTS

Between the years 2014 and 2019, the Forest Service completed PCT, commercial thinning, hand thinning, pile burning, and prescribed fire on the ridge by Round Valley. Between 2018 and 2019, more fuels reduction, pile burning, and prescribed fire occurred to the south of Greenville (Spatial Informatics Group, 2022). The 2021 Dixie Fire burned much of the area at high severity.

## FIRE THREATS

According to a resident, fires tend to come from the southwest in the summer. Post-Dixie Fire there is the “short-term problem of dead trees. Then you’ll have lots of fuels with the brush that grows back”.

## COMMUNITY PERSPECTIVE

Priorities include brush control and removing standing dead fuels.

## FUELS REDUCTION

In the aftermath of the Dixie Fire, lots of work is underway around Greenville. Roadside hazard trees have been cleared along the main SR 89; private lots have been cleared and some will be replanted in 2023. Additional egress route thinning should occur along N Valley Rd and Williams Valley Road. Round Valley Rd and 26N81 could be buffered by thinning and used as a fuel break or holding line for future prescribed fire activities. Other potential fuel breaks follow the ridge-lines surrounding Greenville – from near Round Valley in the south to Keddie Ridge in the north. Down from these fuel breaks are potential areas for threat zone thinning, which are not directly adjacent to residences, but could influence wildfire behavior in the ‘fireshed’. Surrounding Greenville and properties are areas of potential defense zone thinning, which would help protect the town from future fires. Additional firebreaks close to town – buffering the railroad to the west and southwest of town and one atop the hill in the middle of town – could mitigate spread within Greenville’s boundaries. Defense zone and threat zone potential thinning continues around Indian Valley, such as from Keddie Ridge down to N Valley Rd, and ties into other communities such as Crescent Mills and North Arm of Indian Valley.

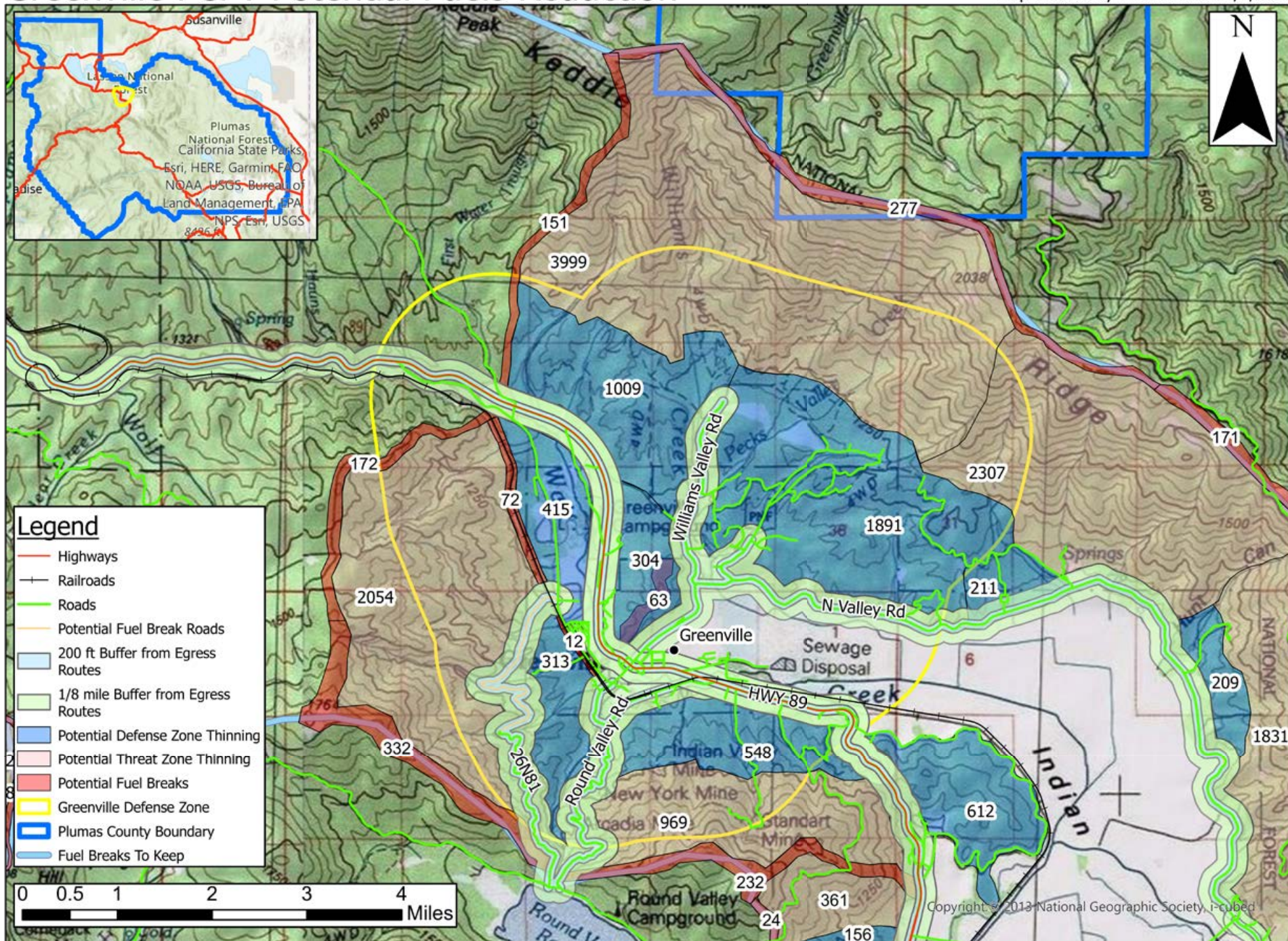
“With Dixie, short term problem of dead trees. Then you’ll have lots of fuels with brush that grows back.”

— GREENVILLE RESIDENT



## Greenville PCFT Potential Fuels Reduction

Map Created by Miles Brooks 11/7/2022





# GRIZZLY RANCH

## PAST TREATMENTS

The Grizzly Ranch CSD last treated their properties, and other nearby private properties, in 2005. There are plans to retreat these areas in the Eastern Plumas Wildfire Prevention project by Plumas County FireSafe Council (PCFSC). In 1996 and 1998, the Forest Service conducted a timber harvest to the north of the community. In 2006, PCFSC created a fuel break northwest of the community, and Sierra Health Foundation commercially thinned an area to the west to create a fuelbreak (Spatial Informatics Group, 2022). No work has been done since, but there are plans to treat fuels in this area as part of the PNF Mapes Crocker and Protect projects.

## FIRE THREATS

The biggest threat to Grizzly Ranch is dense forest on public land to the north and east. Prevailing winds tend to come from the southwest in the summer, but the Dixie Fire came within 6 miles of the community to the northeast. Areas to the south of the community also pose a risk of burning up into Grizzly Ranch, and there is only one egress route.

## COMMUNITY PERSPECTIVE

According to residents, public land that surrounds the Grizzly Ranch community is a priority. Forest Service and Bureau of Land Management land to the north and east have high fuel loads and lack recent management. Private properties to the West could similarly benefit from fuels reduction.

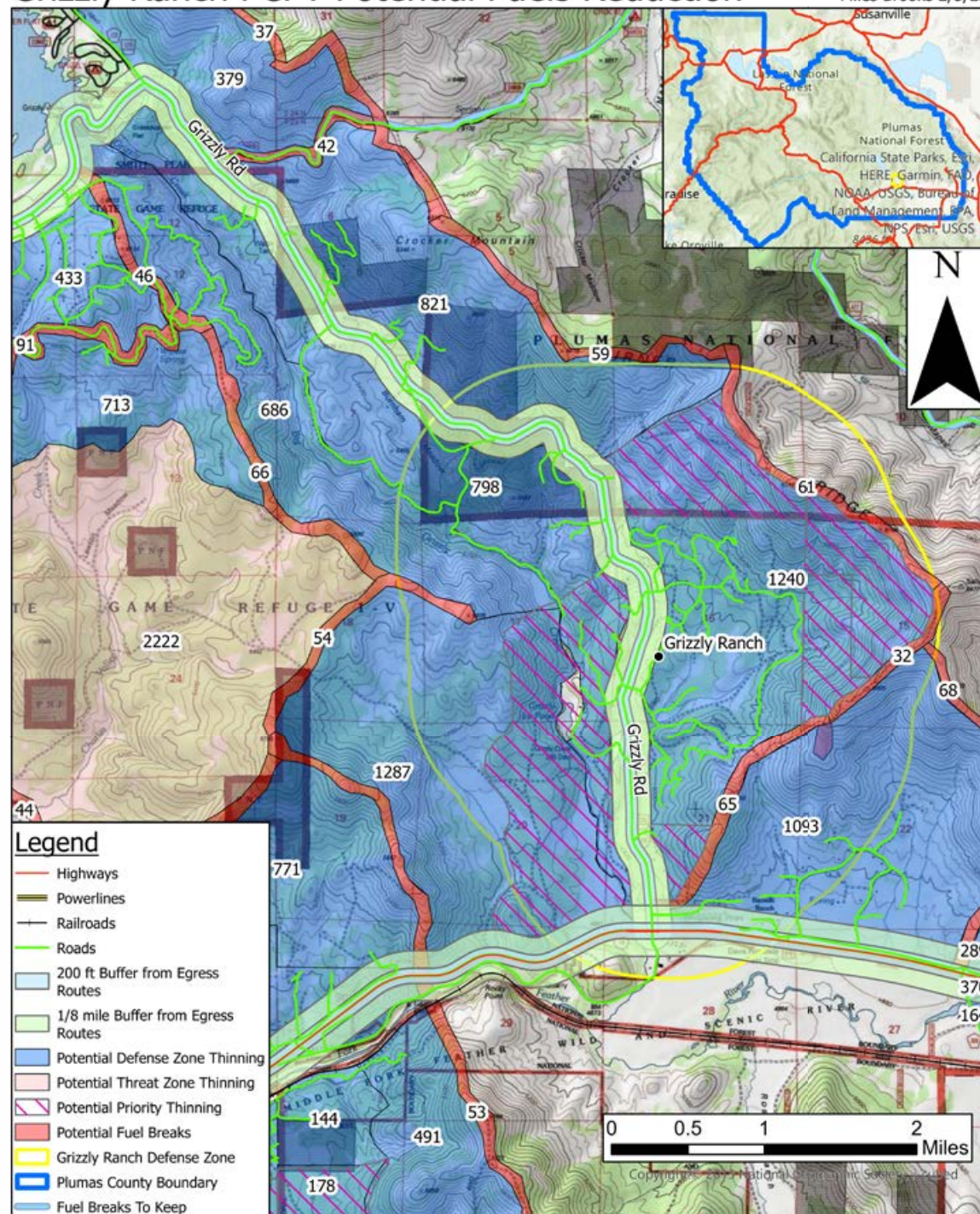
## FUELS REDUCTION

As a whole, the Grizzly Ranch community has been diligent about reducing fuels on their properties, and will treat them again in the Eastern Plumas Wildfire Prevention project. Expanding fuels reduction into neighboring properties to create a continuous reduced fuel profile is integral to the protection of this community. Connecting fuels reduction to Portola, Beckworth, and Lake Davis projects will be beneficial to the Grizzly Ranch community. Potential fuel breaks surround the Grizzly Creek watershed to potentially slow future fires, provide fire suppression teams access to strategic places to fight wildfire, and create places to conduct prescribed fire.



# Grizzly Ranch PCFT Potential Fuels Reduction

Map Created By  
Miles Brooks 2/5/23



An area along Grizzly Road that was treated around 2005, but now saplings are starting to grow back.



# INDIAN FALLS

## PAST TREATMENTS

Indian Falls area is a small community of private property in the Indian Creek canyon surrounded by Plumas National Forest. In 2021, this area burnt at high severity in the Dixie fire. Prior to this, in 1997, mechanical thinning took place on the ridge south and east of Indian Falls. In 2006, private properties in Indian Falls received hand thinning and piling from Plumas County Fire Safe Council. In 2008, a private timber company completed a selection harvest around the ridge north of Indian Falls. In 2012, 2017, 2020, and 2021, Forest Service completed PCT and commercial thinning along Dixie Canyon road (south of Round Valley Reservoir) (Spatial Informatics Group, 2022). Eight other fires have happened in this stretch of the canyon, the most recent and notable being the 1980 Point Fire north of Greenville Wye and the small 2017 Crescent Fire west of SR 89 toward Indian Valley (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

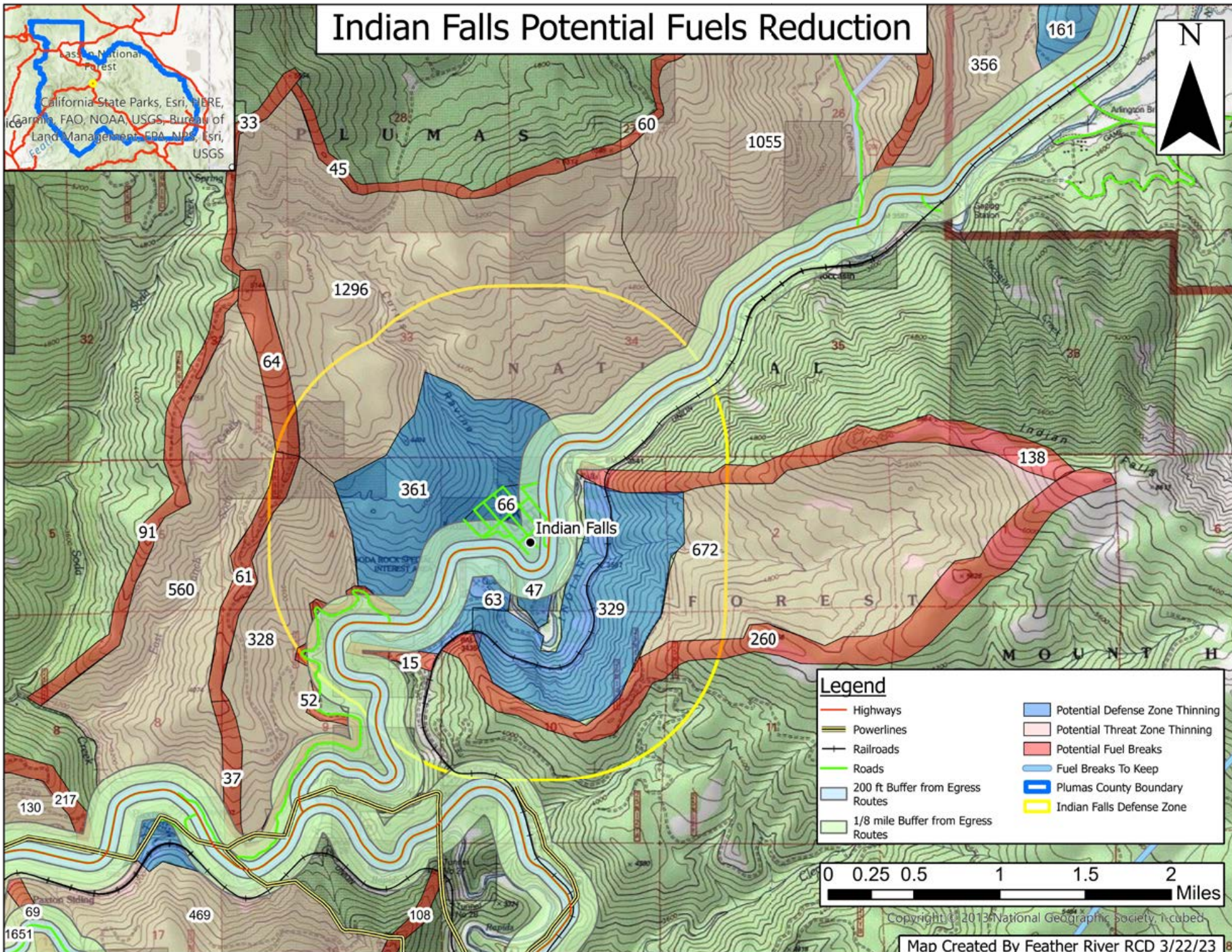
Standing dead timber, understory fuels, topography, and up canyon winds may drive fires in this area (Callenberger & Lunder, 2004).

## FUELS REDUCTION

Indian Falls is located in a steep, rocky canyon along SR 89, which burned at high severity in 2021. Post-Dixie Fire, fuels reduction projects will mostly involve removing snags and brush control. Potential defense zone thinning surrounds private residences in the area to indicate prioritizing reducing fuels in these areas. Potential threat zone thinning includes areas that are difficult to reach and greater than a mile from private property, but may affect fire behavior in the area if thinned. In particular the area to the southeast of Indian Falls may be a good area to treat given the history of fires approaching from down the canyon. Potential threat zone thinning ties into Crescent Mills threat zone thinning. Potential fuel breaks follow prominent ridges in the area and could be used for holding lines for fighting fire or prescribed burns. Buffers around SR 89 could provide safe egress for residents in the area in case of a fire.



# Indian Falls Potential Fuels Reduction



Legend	
Highways	Potential Defense Zone Thinning
Powerlines	Potential Threat Zone Thinning
Railroads	Potential Fuel Breaks
Roads	Fuel Breaks To Keep
200 ft Buffer from Egress Routes	Plumas County Boundary
1/8 mile Buffer from Egress Routes	Indian Falls Defense Zone



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Map Created By Feather River RCD 3/22/23



# JOHNSVILLE & RED DIRT ROAD

## PAST TREATMENTS

Johnsville and Red Dirt Road are small communities adjacent to Plumas Eureka State Park. The State Park is surrounded by Plumas National Forest and private industrial timberland. In 2003 and 2014, industrial timber companies completed a selection harvest on land north of the Red Dirt Road community. Between 2014 and 2019, the Forest Service thinned and harvested areas of land to the west and northwest of Red Dirt Road. In 2019, the Forest Service also harvested timber from a small area of land to the east of the Red Dirt Road community (Spatial Informatics Group, 2022). Hand thin, mastication, and pile burn projects are currently underway within the park and on adjacent Forest Service land. State Park managers have conducted prescribed burns in various locations within the park.

## FIRE THREATS

The Johnsville and Red Dirt Road areas have seen a moderate investment in treatments in recent years. Topographic winds leave the communities vulnerable to fires coming up or down creek canyons (Callenberger & Lunder, 2004).

## FUELS REDUCTION

Potential defense zone thinning surrounds both communities and connects to Graeagle and Mohawk defense zone thinning. The prescribed defense zone thinning is very broad and extends to ridges to the north and west. Further refining of the thinning zones should be refined later based on the ground conditions, particularly the area around Eureka Peak. Some of the potential fuel breaks follow Forest Service fuel breaks, which may need maintenance but already exist. Additional fuel breaks may protect the communities' west side. Another priority is to buffer egress routes, particularly A14 and Johnsville Rd. Other roads are potential egress routes although may not be suitable for all vehicles.



**Map of Plumas-Eureka State Park**

**Legend**

- Highways
- Powerlines
- Railroads
- Roads
- Road Fuel Break
- 200 ft Buffer from Egress Routes
- 1/8 mile Buffer from Egress Routes
- Potential Fuel Break
- Potential Thinning
- Potential Threat Zone Thinning
- Future Mohawk Valley thinning
- Johnsville + Red Dirt Defense Zone
- Plumas County Boundary
- Fuel Breaks To Keep

**Scale:** 0 0.25 0.5 1 1.5 2 Miles

**Copyright:** © 2013 National Geographic Society, i-cubed

**Map Created by Feather River RCD 2/16/22**



# KEDDIE

## PAST TREATMENTS

Keddie is a census-designated area seven miles north of Quincy and directly east of Butterfly Valley. Minimal treatments have occurred in the direct vicinity, but interventions in Butterfly Valley for treatments to the west have been more robust. In 1997 and 1999 commercial thinning occurred on the ridge to the east of Keddie. Some private residential properties have been treated, although details are limited. A Forest Service fuel break exists on the west of SR 70 from Keddie as well as on a ridge to the east (Spatial Informatics Group, 2022). In 2021 the Dixie Fire burned forest lands to the north and east at moderate to high severity (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

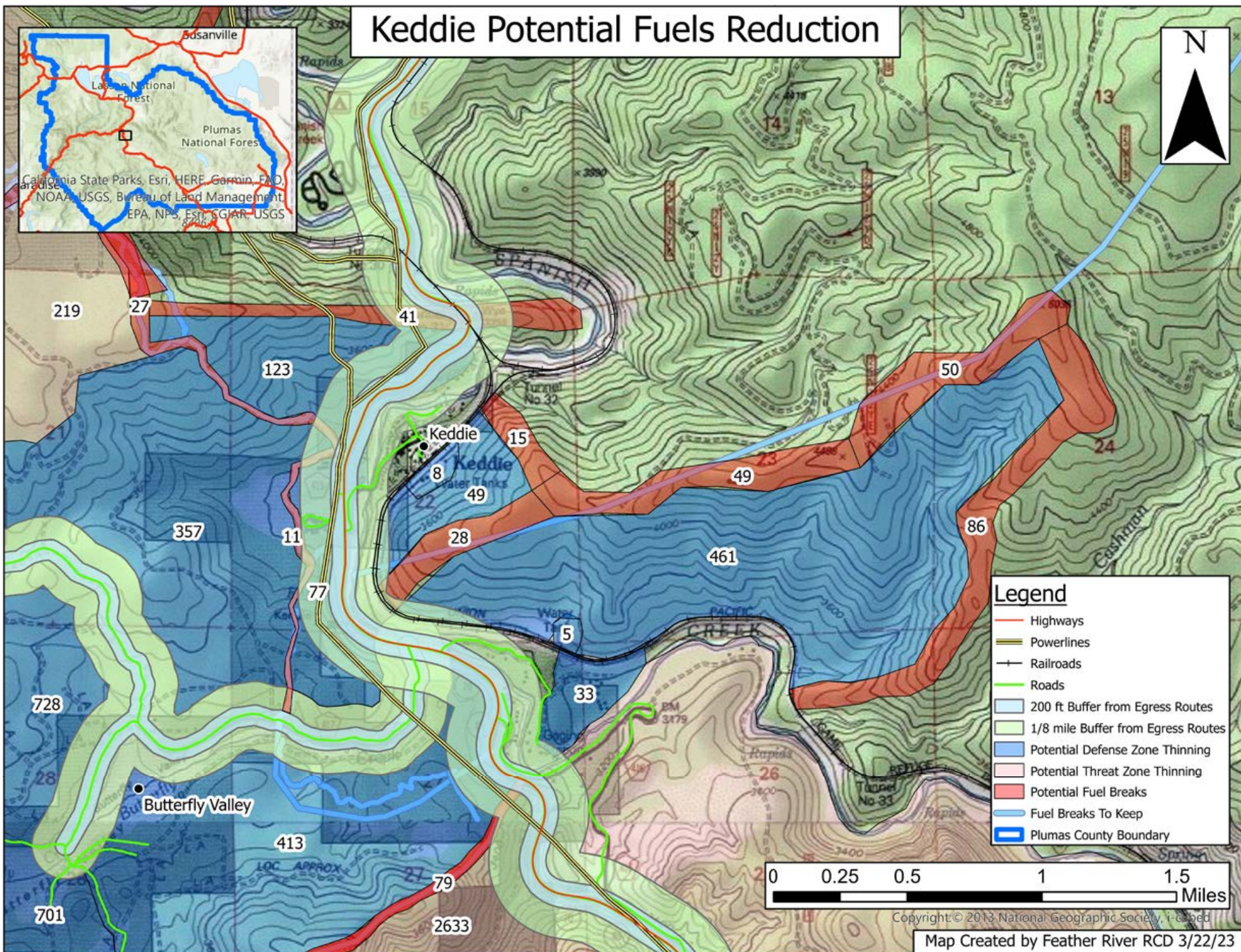
Wind and topography may drive fire up the canyon towards Keddie (Callenberger & Lunder, 2004). Dixie Fire approached the area from the NFFR canyon, which could be a significant fire threat.

## FUELS REDUCTION

Fuels reduction focuses on potential fuel breaks and defense zone thinning. Fuel breaks surround the community, follow existing Forest Service fuel breaks, and tie into Butterfly Valley fuel breaks. Potential defense zone thinning fills in between the fuel breaks to create a continuous fuels reduction project with the adjacent Butterfly Valley community. Thinning buffers around SR 70 would provide egress routes for residents to escape north or south from any fire threats.



# Keddie Potential Fuels Reduction



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Map Created by Feather River RCD 3/22/23



# LAKE ALMANOR

## EAST SHORE & HAMILTON BRANCH

### PAST TREATMENTS

A majority of the land to the north and east of the community is private industrial timberlands. As of 2021, a project northeast of the peninsula on SPI land is underway. To the east of Lake Almanor on private industrial timberland there was fuels treatment about 20 years ago, but not since then (Spatial Informatics Group, 2022).

### FIRE THREATS

According to a resident, the eastern slope around the Lake is at risk from a north or north east wind event. The Dixie Fire did not burn this area, leaving ample green fuel in place. Fires have also threatened from the south in the past, including high severity burns during the Dixie Fire.

### COMMUNITY PERSPECTIVE

High priority is to thin the forest above the railroad tracks up the slope towards Keddie Ridge. I would also maintain established fuel breaks, and clear space around emergency routes.

### FUELS REDUCTION

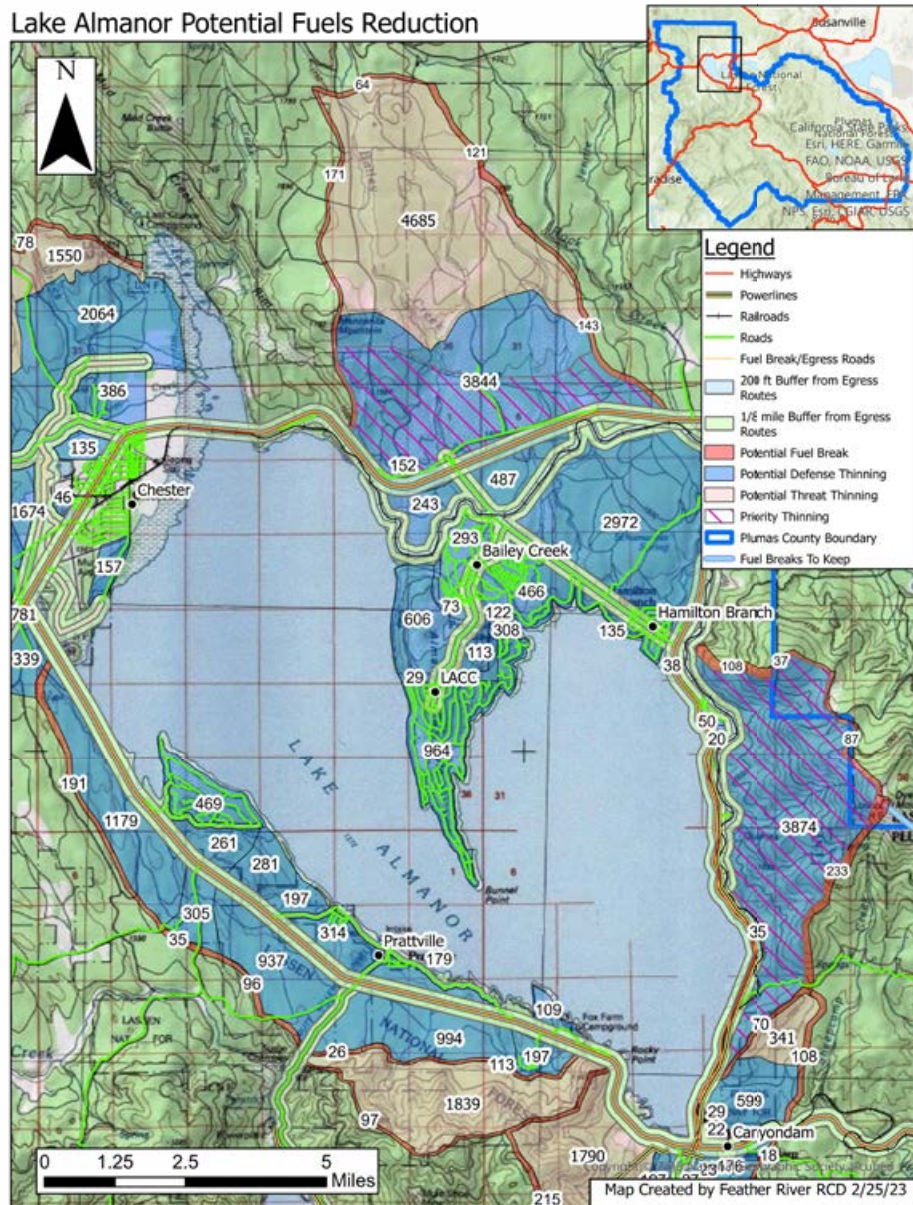
Defending the Eastern shore of Lake Almanor helps create a buffer around Lakeside communities and connects the Lake Almanor Peninsula communities to Canyon Dam and the West Shore. Some work has been done by PG&E and Maidu Summit Consortium. Mechanical thinning with some hand thinning could occur on the slopes to the east of the lake. Mastication and mechanical thinning could be used to the North around Hamilton Branch. Fuel breaks follow the ridgelines up to Keddie Ridge, where it ties into a Forest Service fuel break. These ridgetop fuel breaks, which also follow the Plumas National Forest's Potential Wildfire Operating Delineations (PODs), may slow or prevent fire from entering the area. Fuel breaks and buffers also follow the railroad and major egress routes.

“ [Reduce fuels] above the [railroad] tracks as much as we can get done. It's really thick in there”

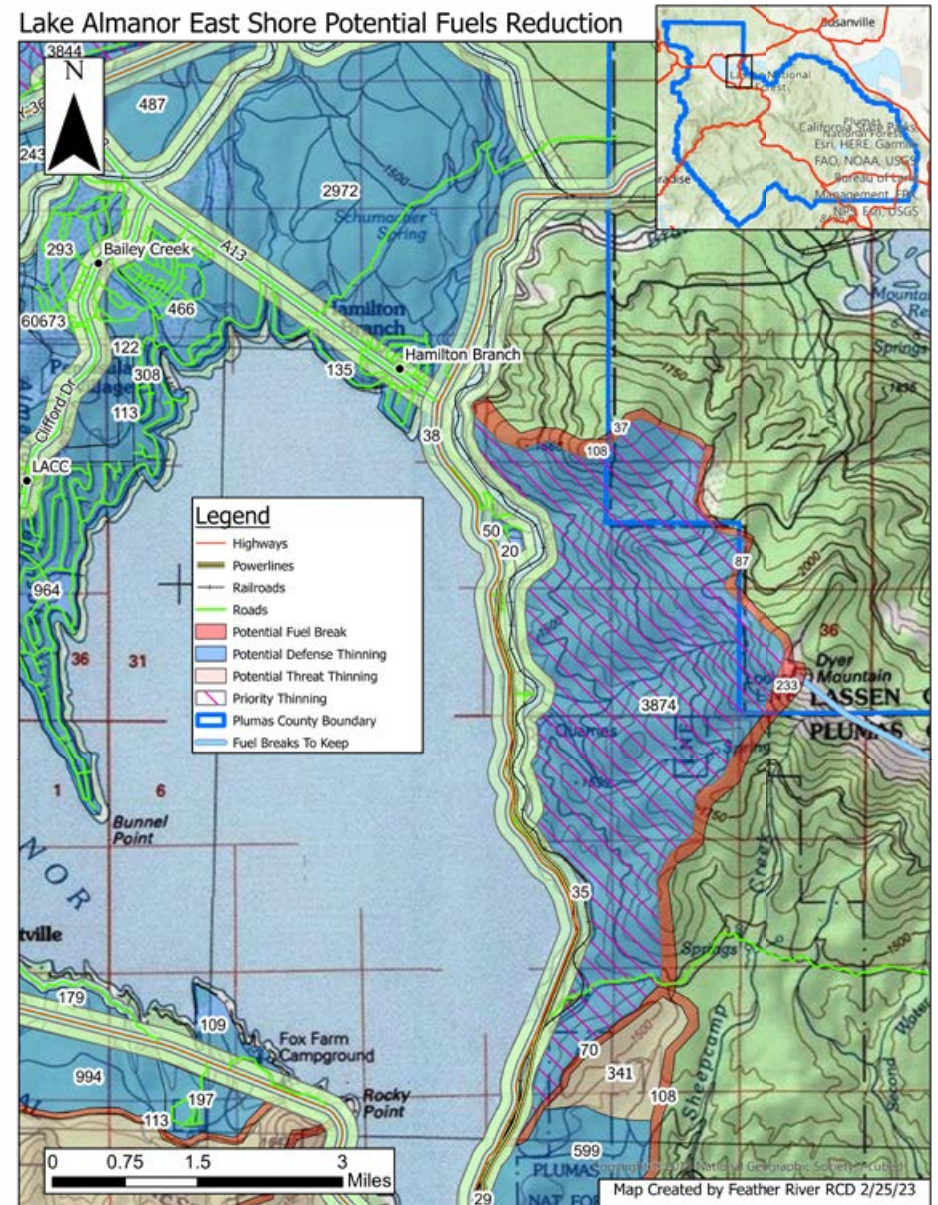
— EAST SHORE RESIDENT



## Lake Almanor Potential Fuels Reduction



## Lake Almanor East Shore Potential Fuels Reduction





# LAKE ALMANOR PENINSULA

## PAST TREATMENTS

A majority of the land to the north and east of the community is private timber land. A 2021 project to the northeast of the peninsula would treat private industrial timberlands. Additionally there has been commercial thinning and mechanical thinning north of SR 36 within the past five years (Spatial Informatics Group, 2022).

## FIRE THREATS

North of the community across SR 36 is a threat because “if it gets to the highway then it’s already too late,” said one community member. Fall foehn winds from the north also influence fire threat. The Peninsula itself has high density forest as well as homes as a primary fuel source.

## COMMUNITY PERSPECTIVE

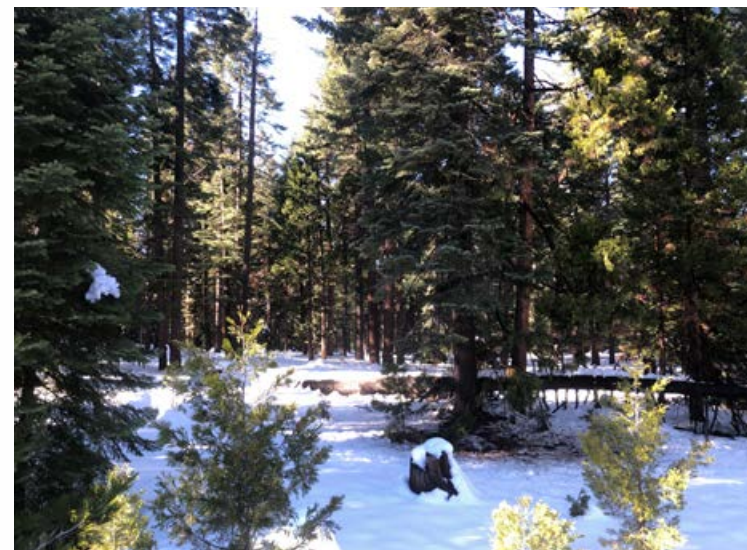
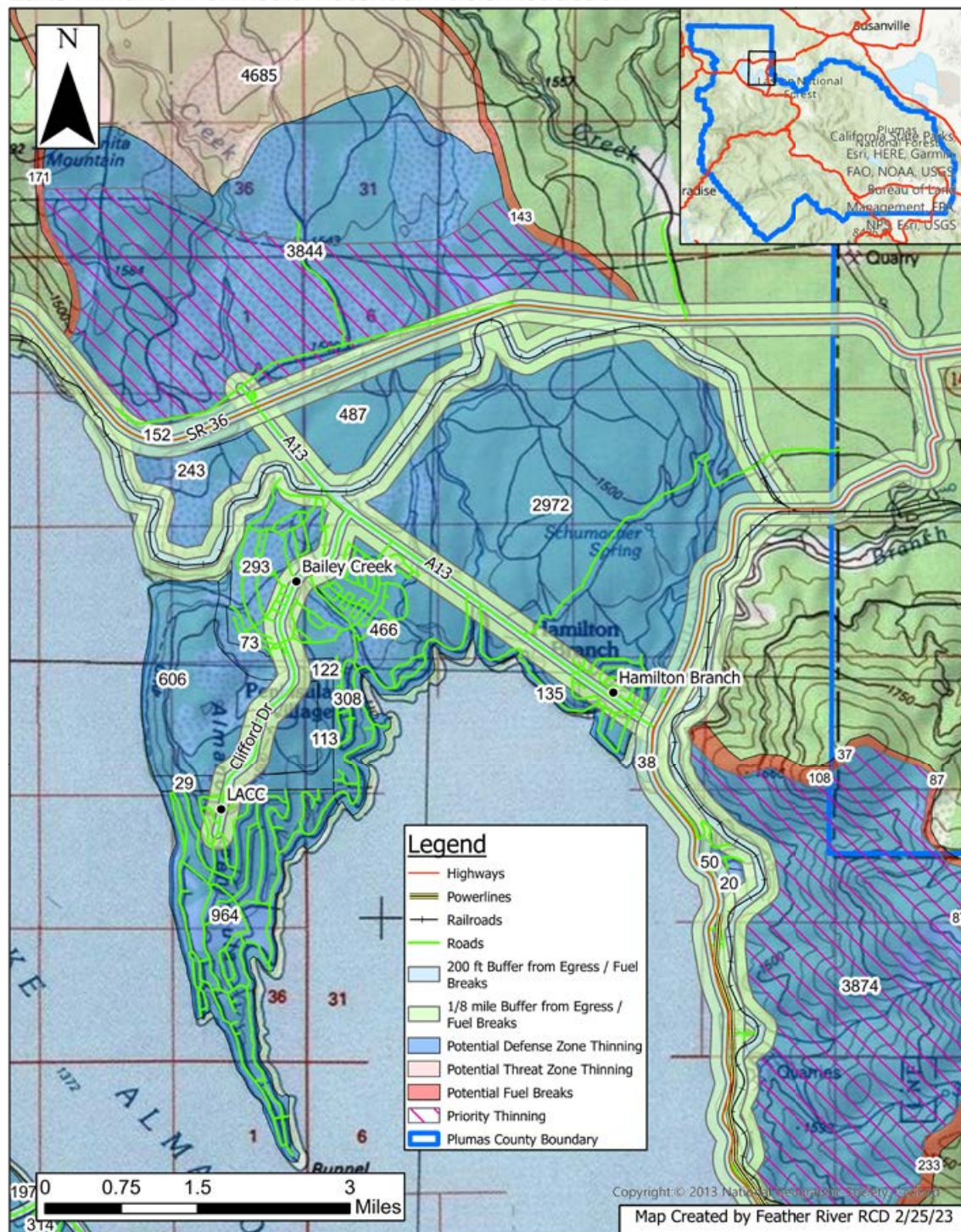
Residents expressed desire to prioritize areas north of SR 36, to slow fire before it gets too close. Both a fuel break and thinning could help accomplish this goal. Other priorities include maintaining fuel breaks in the area so they do not become overgrown.

## FUELS REDUCTION

There are many opportunities for treatments on and around the Lake Almanor Peninsula and Country Club. The forest is rather dense, according to stand density index data and photopoints (USDA Forest Service et al., 2022). The LACC has removed some vegetation to clear space for new developments. Interviewed landowners recommend that widespread thinning occur on the peninsula– on private parcels as well as the space between the Country Club and Bailey Creek community to limit the spread of fire within the area. The land to the north and northwest is owned largely by SPI. Mastication or mechanical thinning could be used in those areas to keep the understory clear and reintroduce fire to the land. Egress routes, such as Clifford Drive, A13, and SR 36 should be buffered by fuels reduction in order to act as a fuel break as well as an emergency exit.



## Lake Almanor Peninsula Potential Fuels Reduction



Forest between Bailey Creek and the LACC communities. In the foreground close to the road, there is good spacing between trees; however in the background the forest is higher density.

“Risk of fire spreading from house to house if it gets to the Peninsula”

— **BAILEY CREEK RESIDENT**

“North of [State Route] 36 is a potential threat. We saw the [Dixie] Fire come that way. If it gets to the highway then it's already too late.”

— **BAILEY CREEK RESIDENT**



# LAKE ALMANOR WEST SHORE

## PAST TREATMENTS

On the West Shore, both north and south of SR 89, records of fuels management date back to 1998. The most common management is commercial harvest and PCT, which occurred in 1998, 2001-2003, and 2007-2011. There was an underburn in 2008 on Forest Service land in the southwestern portion of the project area (Spatial Informatics Group, 2022). The 2021 Dixie Fire burned a large portion of the western area (California Department of Forestry and Fire Protection, 2022). The South Lassen Watershed Group is currently developing and implementing projects in the area.

## FIRE THREATS

Dixie Fire approached the west shore of Lake Almanor from the south. Exposed to north winds.

## COMMUNITY PERSPECTIVE

The area north of SR 89 may be a priority. Prattville, Almanor West, and other private properties have high density fuels according to folks from neighboring communities. At risk of structure to structure spread. Clearing around egress routes is also important.

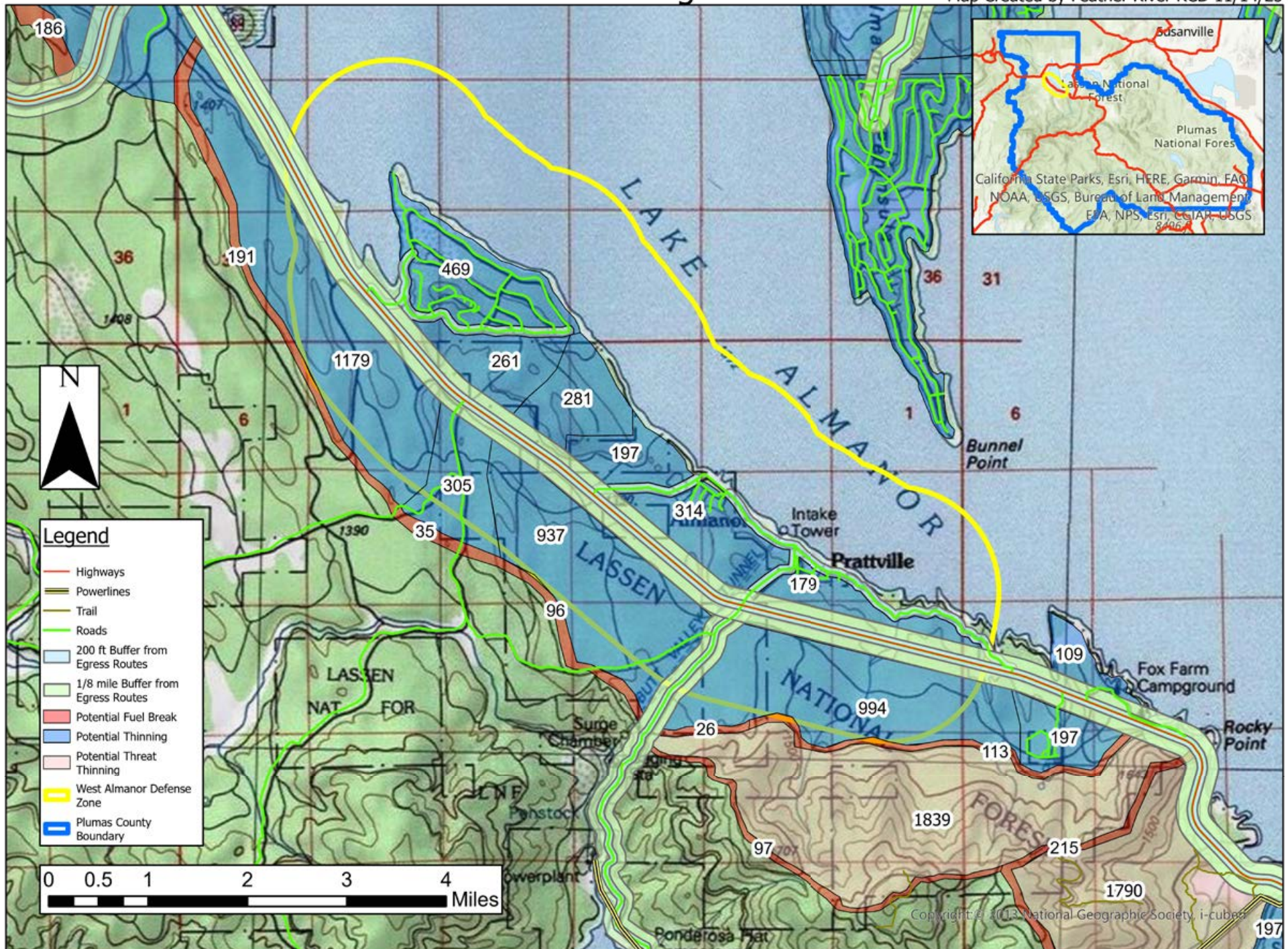
## FUELS REDUCTION

The west shore project could connect to treatment areas from Canyon Dam to Chester and help create a perimeter of fuels reduction around Lake Almanor. A majority of residences in this area are between SR 89 and Lake Almanor. Clearing around private properties, on private, public, and PG&E land, is a priority for treatments. On the opposite (south) side of the SR, potential defense zone thinning extends about a mile back to a potential fuel break. This area burned in the Dixie Fire, so the priority would be brush control. On the southeast side there are two potential fuel breaks separated by potential threat zone thinning, which is beyond the defense zone for the West Shore communities. The more southerly fuel break connects to the Canyon Dam fuel breaks and follows a local ridge-top. The northern fuel break is at the base of the slope to provide multiple lines of buffer for an area that has seen multiple fires in the past 25 years. A buffer around the Prattville-Butt Reservoir Road helps protect emergency exit routes for Seneca residents.



## West Almanor PCFT Fuel Breaks and Thinning

Map Created by Feather River RCD 11/14/23





# LAKE DAVIS

## PAST TREATMENTS

Lake Davis is a small census-designated place on the southern shore of Lake Davis. It is predominantly surrounded by Plumas National Forest except for a large privately owned parcel to the south. In 1999 and 2000, the Forest Service commercially thinned sections to the east of Grizzly Ranch Road. In 2003, 2010, and 2011, PCT, single tree selection, and piling occurred along Lake Davis Road. In 2011 and 2016, the Forest Service harvested and commercially thinned areas near the southwest and southeast shore of Lake Davis. The southwest shore was re-treated in 2018 and 2020 (Spatial Informatics Group, 2022).

## FIRE THREATS

The Dixie Fire threatened the community from the north and northwest. Narrow canyons of Big Grizzly creek and Humbug creek to the south drive fire behavior.

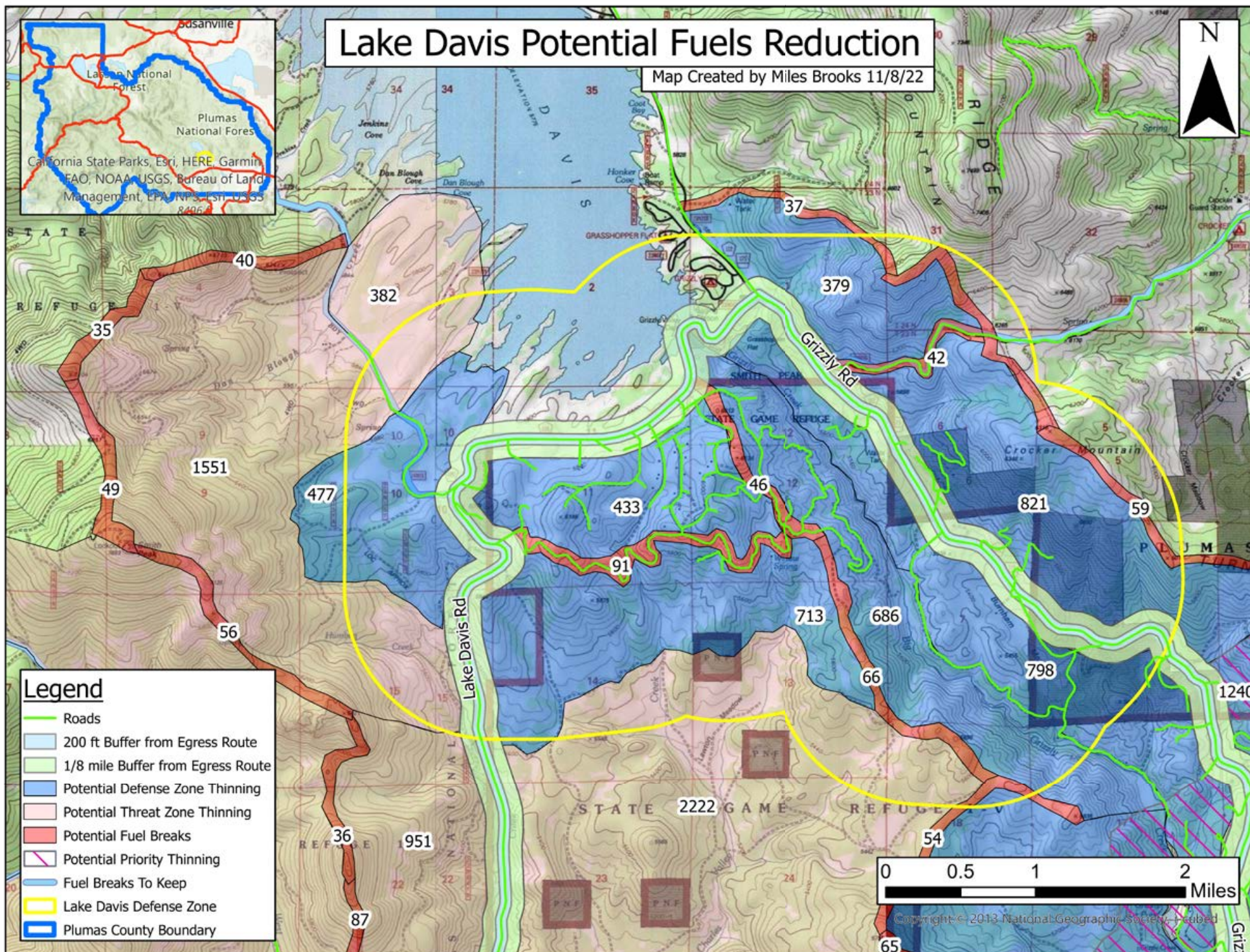
## FUELS REDUCTION

Lake Davis area lacks contiguous fuels management. Ideally, projects would tie into Grizzly Ranch and Portola (to the south). Potential defense zone thinning prioritizes treating areas of high fuels close to the community. The Big Grizzly creek canyon is a potential defense zone thinning due to its proximity to Grizzly Ranch and risk of fire moving up canyon. Lake Davis Road is surrounded by high fuel loads and should receive treatment, even though some management actions were taken around 2010. Potential fuel breaks follow ridgelines around the community to the west and east. A fuel break follows a road through the community as a line of defense. Another fuel break runs from southeast to north along the spine of the ridge and ties into Lake Davis Road. Potential threat zone thinning fills in between potential defense zone thinning and the potential fuel breaks. Steeper slopes to the west may require a mosaic of treatment types such as hand thinning, mechanical thinning, and prescribed fire.



# Lake Davis Potential Fuels Reduction

Map Created by Miles Brooks 11/8/22







Forest facing west off of Lake Davis Road, which may have received treatment in the past, but now is dense with young, small trees.



# LA PORTE & LITTLE GRASS VALLEY

## PAST TREATMENTS

The towns of La Porte and Little Grass Valley are surrounded by federal Forest Service land and private industrial timberland. Both public and private landowners have treated the landscape using various methods including commercial and precommercial thinning (PCT), broadcast burns, and piling. Our review of past treatments begins in 2003, when the Forest Service commercially thinned along the ridge to the northwest of La Porte as well as conducted PCT to the East of Quincy La Porte Road. Quincy La Porte Road is the main egress route out of the area. In 2007, private timber industry commercial thinned forest to the northeast of Little Grass Valley. In 2008 and 2009, mastication, PCT, piling, and pile burning occurred on private industrial land adjacent to La Porte to the west. Between 2009 and 2012, US Forest Service conducted PCT, piling, lop and scatter, and pile burning on land to the west of La Porte. In 2009, Forest Service land around Little Grass Valley campground also underwent PCT, piling, and pile burning. In 2010, the Forest Service thinned, piled, and burnt said piles east of Quincy- La Porte Rd. In 2010, Plumas County Fire Safe Council assisted the commercial thinning east of Little Grass Valley and hand thinning and commercial thinning directly south of La Porte. In 2013, industrial timber companies orchestrated a group selection and transition harvest to the west of Little Grass Valley. In 2014 and 2015, USFS harvested timber south of La Porte, and performed salvage and sanitation harvests along the Quincy-La Porte road and Little Grass Valley campground. Between 2015 and 2022 the Sugarloaf and Grass Flat projects entailed a combination of different management actions including PCT, piling, lop and scatter, yarding and biomass removal, commercial thinning, and broadcast burning. Sugarloaf project encompasses areas to the South and Northwest of La Porte, and the Grass Flat project treated areas around North of Little Grass Valley (Spatial Informatics Group, 2022).

## FIRE THREATS

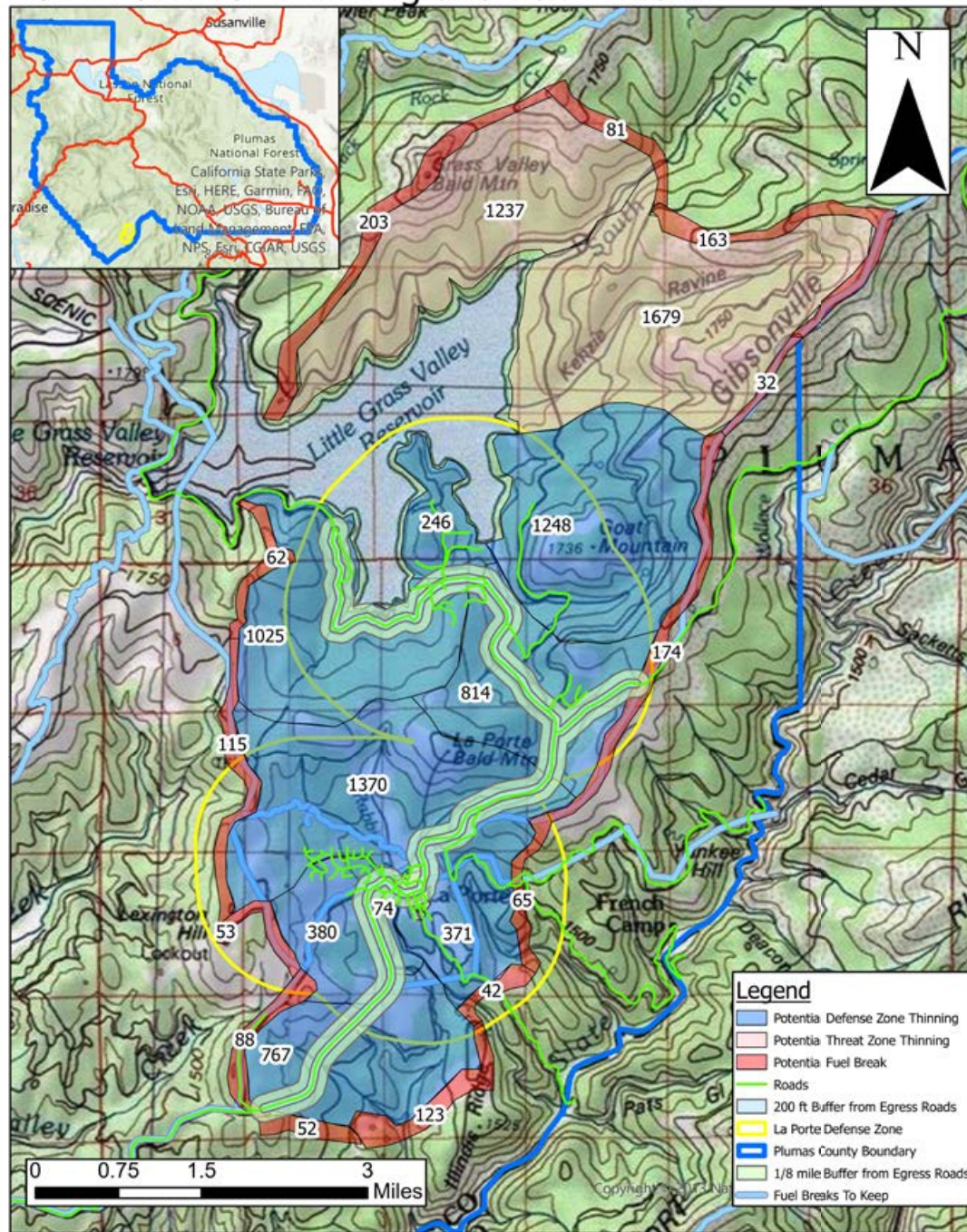
The 2020 North Complex Fire threatened the area from the west and southwest, but did not burn the area (Callenberger & Lunder, 2004). Potential for lightning ignitions.

## FUELS REDUCTION

This area has seen a comparably decent amount of fuels reduction, which could potentially lead to more broadcast burning opportunities. Potential defense zone thinning creates a continuous reduced fuel landscape between Little Grass Valley and La Porte to lower the risk of spread or spot fires from the outside. Potential fuel breaks follow ridge-tops and Forest Service fuel breaks around the community to provide a line of defense as well as potential breaks for prescribed fire. Potential threat zone thinning extends beyond the defense zone as it may not be a large priority, though it would increase protection to the greater watershed. Buffering around egress routes is another tactic to allow for egress as well as emergency vehicle access in case of fire. Buffering Quincy-La Porte road all the way to SR 70 and Strawberry Valley would be a larger endeavor, but likely beneficial for residents.



# La Porte + Little Grass Valley PCFT Potential Thinning and Fuel Breaks





# LAYMAN BAR

## PAST TREATMENTS

Layman Bar is predominantly Forest Service land, but there is a large block of private timber industry land to the west. In 2004, the Fire Safe Council led a thinning project within the parcels near the Middle Fork Feather River. In 2014, the area behind these parcels were commercially thinned. Also in 2014, timber industry commercially harvested various areas above Cub Valley. Across SR 70 from Layman Bar, Forest Service thinned some areas in 2013 and conducted a commercial harvest on a small section south of the thinned area in 2016. In 2016 and 2020, areas of Forest Service land far to the west of Layman Bar was commercially harvested, precommercial thinned, and piled. Those piles were subsequently burned in 2022. A mechanical brush reduction project is underway south of Layman Bar (Spatial Informatics Group, 2022). The 1989 Layman Fire burned more than 4,000 acres on the east side of SR 70. Understory is the primary fuel type in this area (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Topography and wind drives fire in this area (Callenberger & Lunder, 2004). Threats could come from the west up the MFFR canyon, where fires have started in the past. There is also potential for fire spread from upstream near Johnsville.

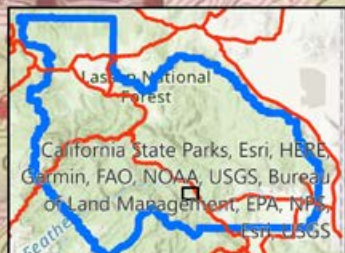
## FUELS REDUCTION

Layman Bar is a small area off of SR 70 next to the Middle Fork Feather River. The surrounding area is National Forest and private industrial timberland. The areas to the west could be thinned in order to create a continuous stretch of reduced fuels between Quincy and Graeagle. Thinning methods could include mastication, mechanical thinning, hand thinning, and prescribed burning. Included in this area is Two Rivers, a private summer camp on Forest Service lease, which would benefit from management actions to protect the camp. Ridgetop fuel breaks could add another layer of defense. Treatment area is large and crosses both private industrial land and federal land. This could be decreased or modified depending on need and accessibility. The Plumas National Forest Protect project will include the Forest Service land in this project.



# Layman Bar PCFT Potential Fuels Reduction

Map Created by Feather River RCD 3/23/23



## Legend

- Highways
- Powerlines
- Railroads
- Roads
- 200 ft Buffer from Egress Routes
- 1/8 mile Buffer from Egress Routes
- Potential Defense Zone Thinning
- Potential Threat Zone Thinning
- Potential Fuel Breaks
- Future Mohawk Valley thinning
- Plumas County Boundary
- Fuel Breaks To Keep

0 0.25 0.5 1 1.5 Miles

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# MABIE

## PAST TREATMENTS

Mabie area is surrounded predominantly by federal Forest Service land. In 1996, the Forest Service conducted commercial thinning south of SR 70. In 2001 and 2002, commercial thinning occurred to the west and northeast on Forest Service land. In 2003, precommercial thinning occurred north of Mabie, in continuity with the 2001 commercial thinning. In 2004 and 2005, PCT occurred south of Mabie between the River and SR. In 2011, 2012, and 2018 commercial thinning occurred north of the town (Spatial Informatics Group, 2022). In fire history, a fire burned up the MFFR Canyon in 1959, and in 1964 a fire burned across the north portion of the project area (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

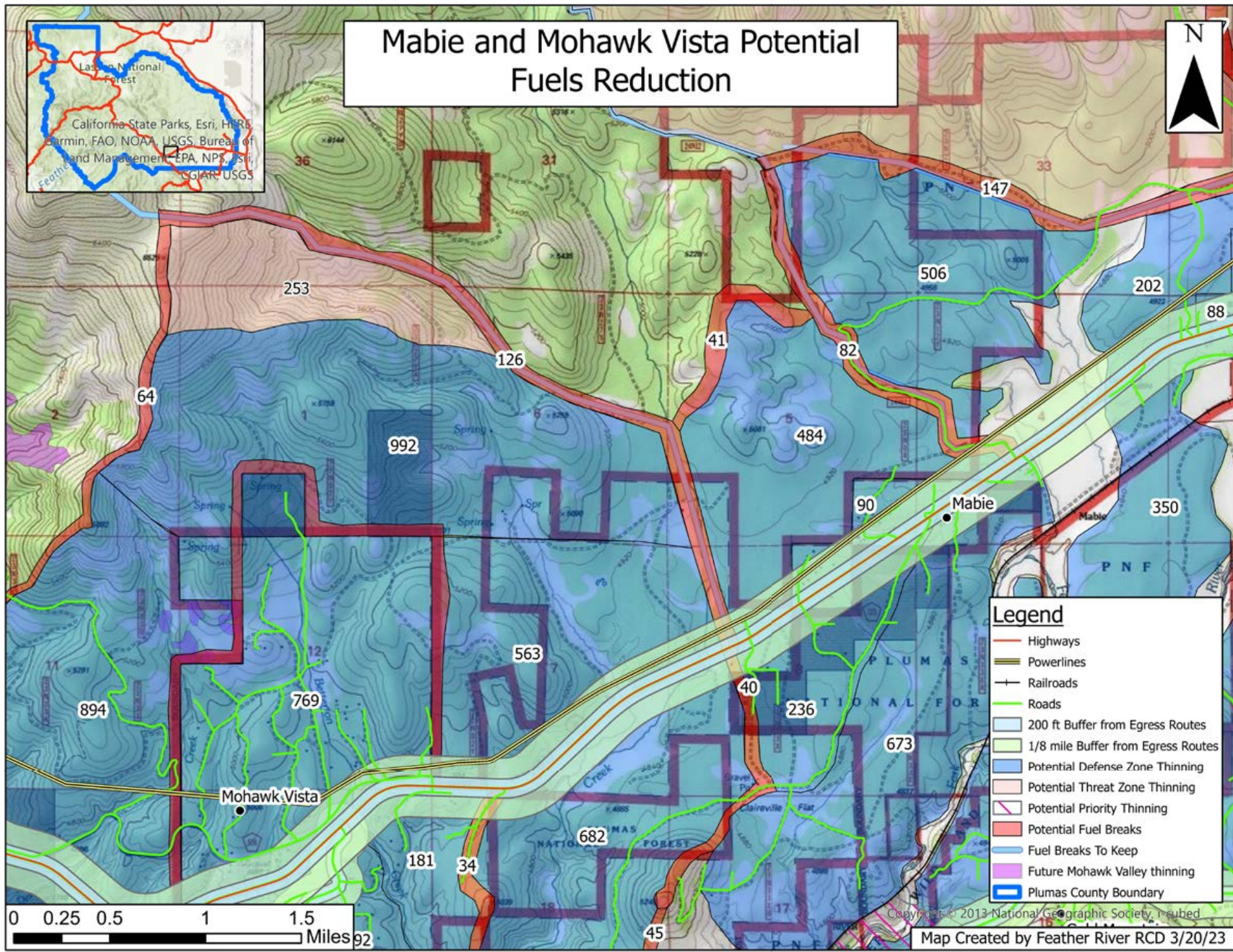
Dominant wind direction is from the south and southwest. Fires running up the Middle Fork Feather River canyon pose a threat.

## FUELS REDUCTION

Mabie is another census designated place along SR 70 between Portola and Quincy that should undergo thinning to create a continuous corridor of reduced fuel loads. An area between the MFFR and SR 70 is a potential area for defense zone thinning due to its proximity to private residences as well as its location within the canyon which is a threat for fire spread. Additional defense zone thinning north of SR 70 could connect to Mohawk Vista thinning and Delleker thinning. Generally this area has moderate density of trees and somewhat recent fuels treatment. While this area may be lower priority, it should be considered in years to come. Potential fuel breaks to the northwest and northeast follow Forest Service fuel breaks, which may require maintenance. A potential fuel break connects the two, which also connect to SR 70 to surround the north side of the community. To the southwest, a fuel break could provide protection from fires coming up the SR 70 canyon. Most public lands will be included in the analysis of the PNF's Protect Project.



# Mabie and Mohawk Vista Potential Fuels Reduction



- Legend**
- Highways
  - Powerlines
  - Railroads
  - Roads
  - 200 ft Buffer from Egress Routes
  - 1/8 mile Buffer from Egress Routes
  - Potential Defense Zone Thinning
  - Potential Threat Zone Thinning
  - Potential Priority Thinning
  - Potential Fuel Breaks
  - Fuel Breaks To Keep
  - Future Mohawk Valley thinning
  - Plumas County Boundary





# MASSACK

## PAST TREATMENTS

Our record of past treatment goes back to the late 1990s. In 1998 and 1999 Forest Service commercially thinned portions of land east of Massack. In 2000 and 2003, SPI commercially thinned land to the north of Massack as part of a fuel break. This fuelbreak to the north was extended in 2008 when PCFSC treated land adjacent to SPI property. Between 2008 and 2016, the Forest Service pre-commercially thinned, piled, and broadcast burned land adjacent to the same SPI property to the north, as well along the ridge to the southeast of Massack (directly north of Williams Loop). These created fuel breaks to the northwest and southeast of Massack. Additional commercial thinning occurred on Forest Service land on the hillsides near Massack in 2013 and 2021 (Spatial Informatics Group, 2022). In 2020, the North Complex Fire burned portions of this area (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Wind driven fire threatens the community from the southwest. The North Complex fire spread from that direction in 2020. There is potential for highway and railroad ignitions as well (Callenberger & Lunder, 2004).

## COMMUNITY PERSPECTIVE

Maintaining existing fuel breaks, like the ones to the southeast and northwest, should be a priority. Additionally, establishing a fuel break to the southwest, such as buffering SR 70 or a ridgetop fuel break, should be implemented to protect the community.

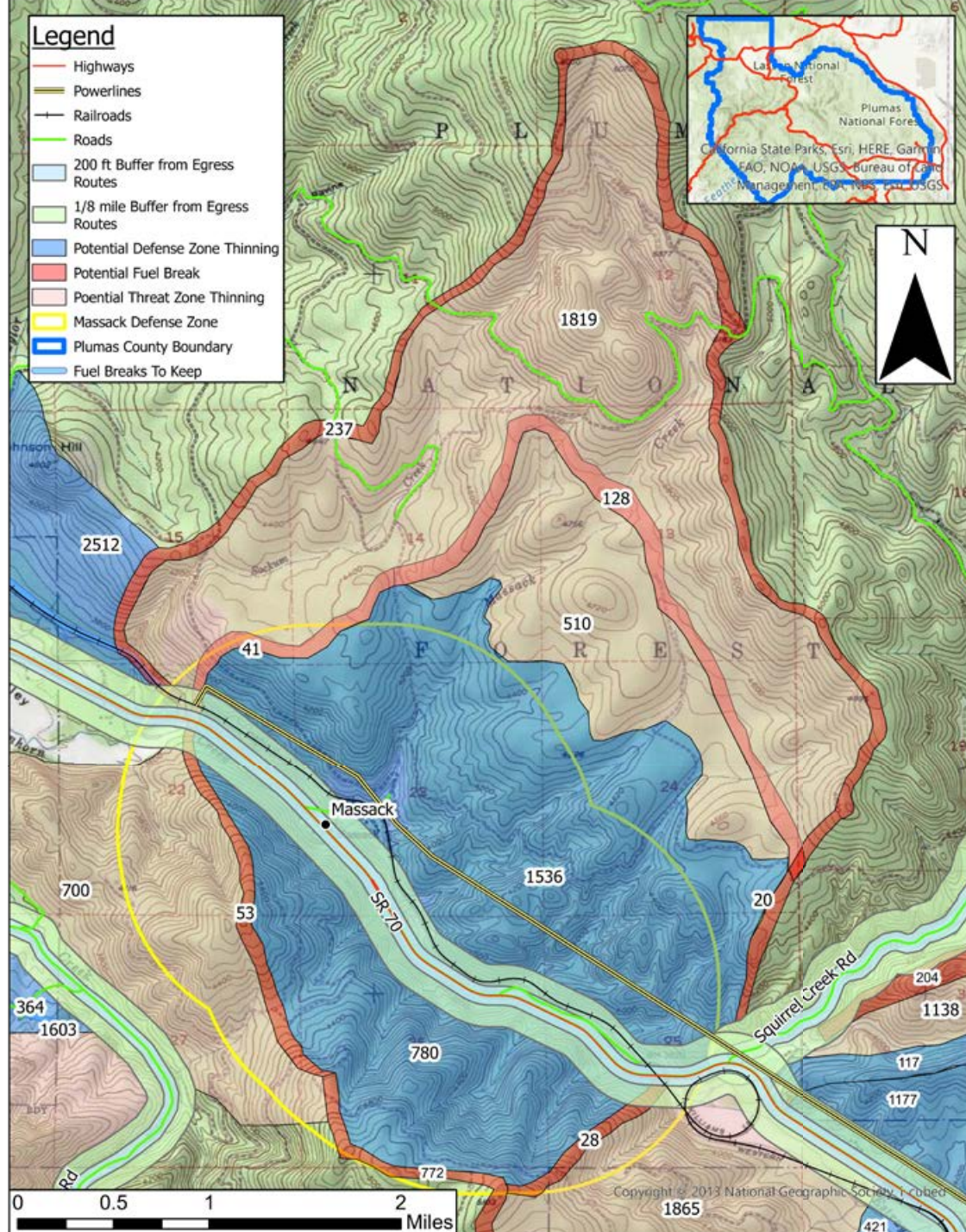
## FUELS REDUCTION

Most of the potential thinning around Massack occurs on Forest Service land, which is slated for fuels reduction under the Protect project. The Massack area is a management priority in order to connect the corridor from American Valley to Graeagle with continuous treatments. Historically this area has not seen much fire, but fuel loads make a devastating fire occurrence just a matter of time. Establishing a buffer and fuel break around SR 70 would create safe egress routes for folks moving away from hazards as well as a means to protect the Massack community. Additional fuel breaks surround the ridgetops around Massack. Fuel breaks to the northwest and southeast follow previous fuel break projects on private and federal land respectively. No known fuels treatment has occurred to the southwest, which is the direction the North Complex fire approached Massack. Between fuel breaks and SR 70, potential defense zone and threat zone thinning should occur to reduce fuel loads. Treatment could be a combination of mechanical thinning, hand thinning, mastication, and prescribed fire.



# Massack PCFT Potential Fuels Reduction

Map Created by Feather River RCD 1/9/23





# MEADOW VALLEY

## PAST TREATMENTS

Meadow Valley is surrounded predominantly by Plumas National Forest and a few private timber industry parcels. Past treatments have primarily occurred directly north, east, and west of Meadow Valley. Known treatments date back to 1996. Between 1996 and 2001, the Forest Service thinned timber units to the north as well as far to the south. In 1999, 2000, 2002, 2005, 2006, and 2021, the Forest Service conducted controlled burns directly north of Meadow Valley. PCT as well as piling and pile burning has taken place north of Meadow Valley over the years. Between 2001 and 2015, the Forest Service oversaw multiple rounds of PCT, piling, commercial thinning, lop and scatter, and broadcast burning to the east and west of Meadow Valley. In 2015, private industrial timber companies harvested trees around the outskirts of town and then reforested those same properties. In 2016, the Forest Service conducted a large broadcast burn to the west at the base of Spanish Peak. From 2017 to 2019, the Forest Service reduced fuels through PCT, piling, and pile burning on federal land to the north and southwest of Meadow Valley. In 2019, Plumas County Fire Safe Council helped residents masticate or hand thin their properties (Spatial Informatics Group, 2022). Fire history includes the 2009 Silver Fire, which burned a slope to the west of Meadow Valley, and the 2021 Dixie Fire, which threatened from the west, but stopped when it reached treatment lines and a fuel break (California Department of Forestry and Fire Protection, 2022).

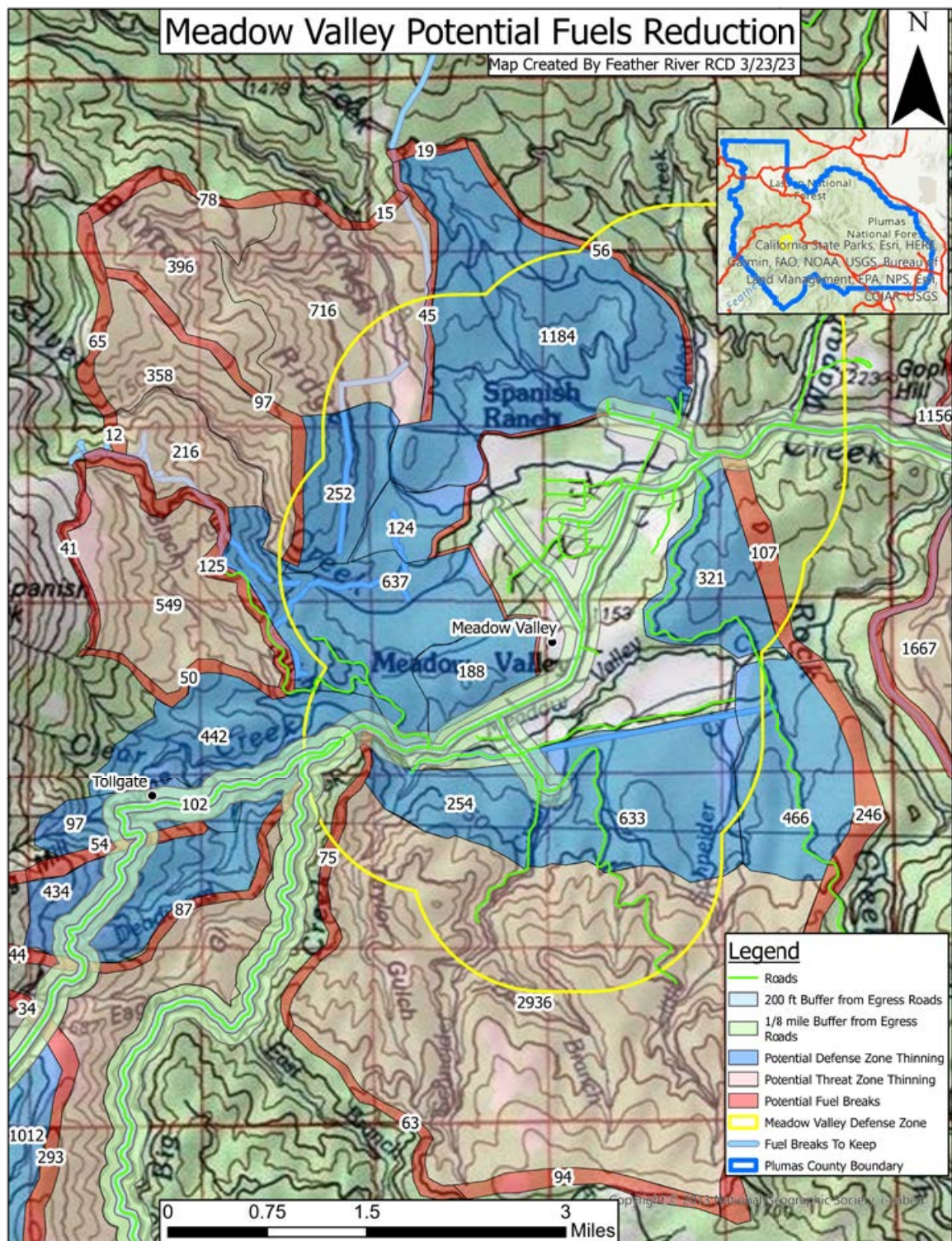
## FIRE THREATS

Fires running up from the NFFR or MFFR canyons. Ignitions within the community or nearby campgrounds.

## FUELS REDUCTION

The Meadow Valley area has seen considerable management actions, but areas of high fuel loads remain (USDA Forest Service et al., 2022). Potential defense zone thinning highlights thinning around the valley, which has seen past fuels reduction. Maintenance of these areas to ensure fuels loads are low is key to protecting this community. Additionally, the area south of Meadow valley has seen little fuels reduction, and thus could be an area for priority thinning. Potential threat zone thinning extends beyond the defense zone and could offer additional protection on slopes above Meadow Valley, which could be sources for sparks and spot fires. Potential thinning extends to the west to encompass the Tollgate community as well as connect to Bucks Lake fuels reduction. Potential fuel breaks scatter the area—following ridges, Forest Service fuel breaks, and roads that may be strategic defense points for fighting fire or broadcast burning. Additionally, the Forest Service has plans to treat the area to the south and east of Meadow Valley for fuels reduction as part of the Claremont project.







# MOHAWK & PLUMAS EUREKA

## PAST TREATMENTS

The communities of Mohawk and Plumas Eureka are located along the Middle Fork of the Feather River adjacent to Graeagle. The communities are surrounded by State Park and US Forest Service to the west, private industrial timberland to the southwest, and Forest Service to the north and east. On Forest Service land across the Feather River, fuels reduction, including pre commercial thinning, commercial harvest, piling and piling burning, occurred in 1997 as well as between 2012 and 2015. Some non-industrial private timber harvest and thinning occurred between Plumas Eureka and the Feather River in 2003, and on the Feather River Inn property in 2008. In 2016, industrial timber harvest/fuel break/thinning occurred on private property to the east of Mohawk as well as north of Plumas Eureka on the other side of SR 70. In 2019, the Forest Service completed commercial harvest and thinning to the west of Mohawk (Spatial Informatics Group, 2022). In 2022, the Feather River RCD began hand thinning west of Plumas Eureka as well as behind houses adjacent to the Middle Fork Feather River. No known fires have occurred in the area since 1929 (California Department of Forestry and Fire Protection, 2022).

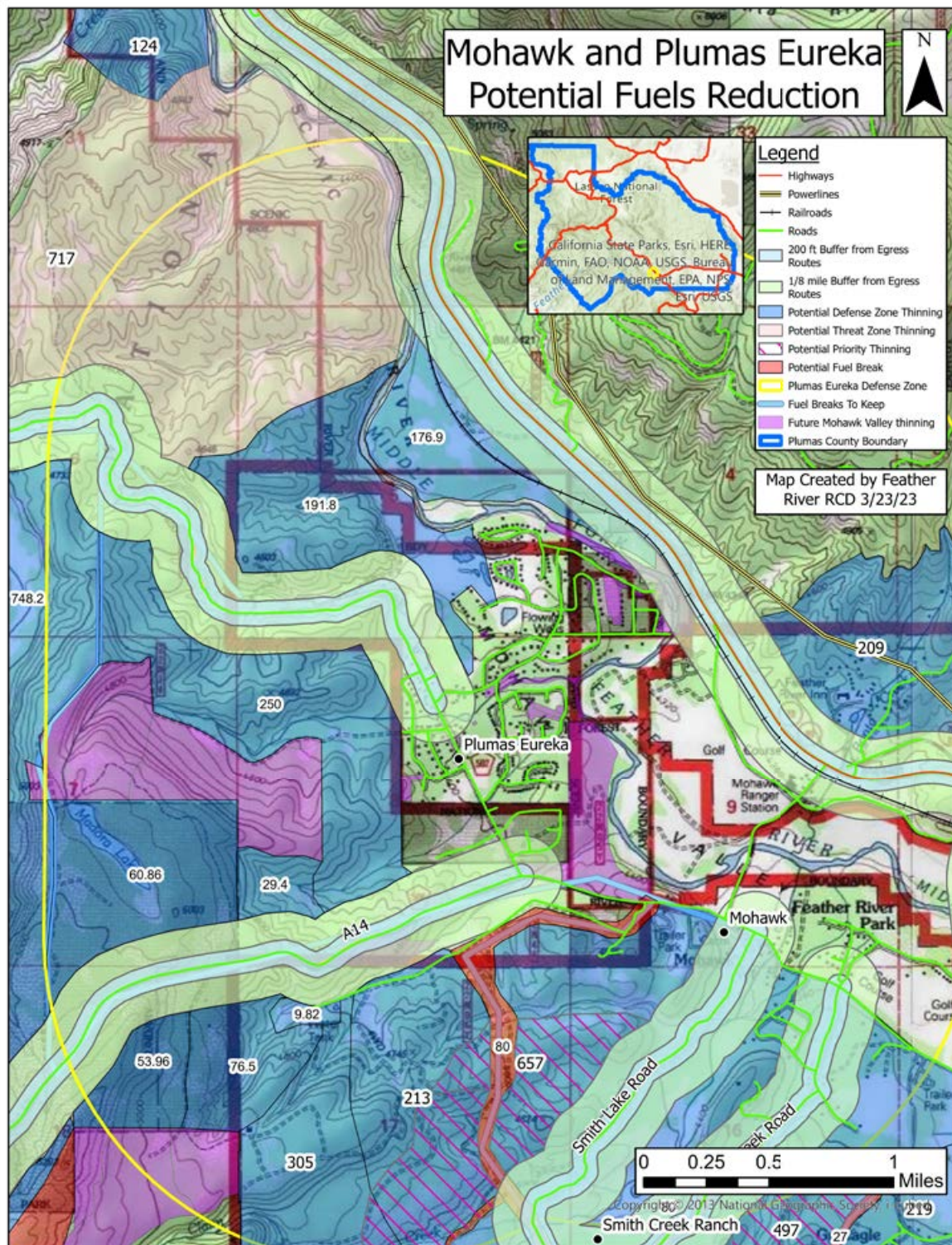
## FIRE THREATS

The Plumas Eureka communities have seen a moderate amount of management in recent history and are in the planning process for larger initiatives. Predominant wind directions in the area are from the south and southwest. Fires running up the MFFR canyon could pose a threat.

## FUELS REDUCTION

Potential fuels reduction projects should prioritize clearing egress routes and thinning around the communities. Potential defense zone thinning encompasses a large amount of acreage in the landscape because this whole area is within a mile of residences. Starting to thin close to communities will create a safety buffer for residents from future wildfires in the area. Potential defense zone thinning ties into thinning around the communities of Red Dirt Road, Johnsville, and Graeagle. Potential threat zone thinning could expand north and tie into Layman Bar and Two Rivers potential defense zone thinning.







# MOHAWK VISTA

## PAST TREATMENTS

Mohawk Vista is a census-designated place north of C-road and SR 70. It is surrounded by National Forest land. Fuels reduction has taken place on both federal land surrounding the community as well as private land within the community. Between 1999 and 2007, both private properties and National Forest land were commercially thinned for a fuel break to the east of Mohawk Vista. In 2009, Plumas County Fire Safe County helped reduce fuels on private land within the community through mastication and commercial thinning. Some of these properties were treated again in 2019 or 2020. Between 2012 and 2017, the Forest Service performed PCT, commercial thinning, piling, and pile burning on Plumas National Forest land to the east and west of Mohawk Vista. Additional PCT and commercial harvest happened on federal land to the west of Mohawk Vista in 2020 (Spatial Informatics Group, 2022).

## FIRE THREATS

Predominant wind in the area comes from the south and southwest. Threats of fire come from the same direction, as well as from the Middle Fork Feather River to the west.

## FUELS REDUCTION

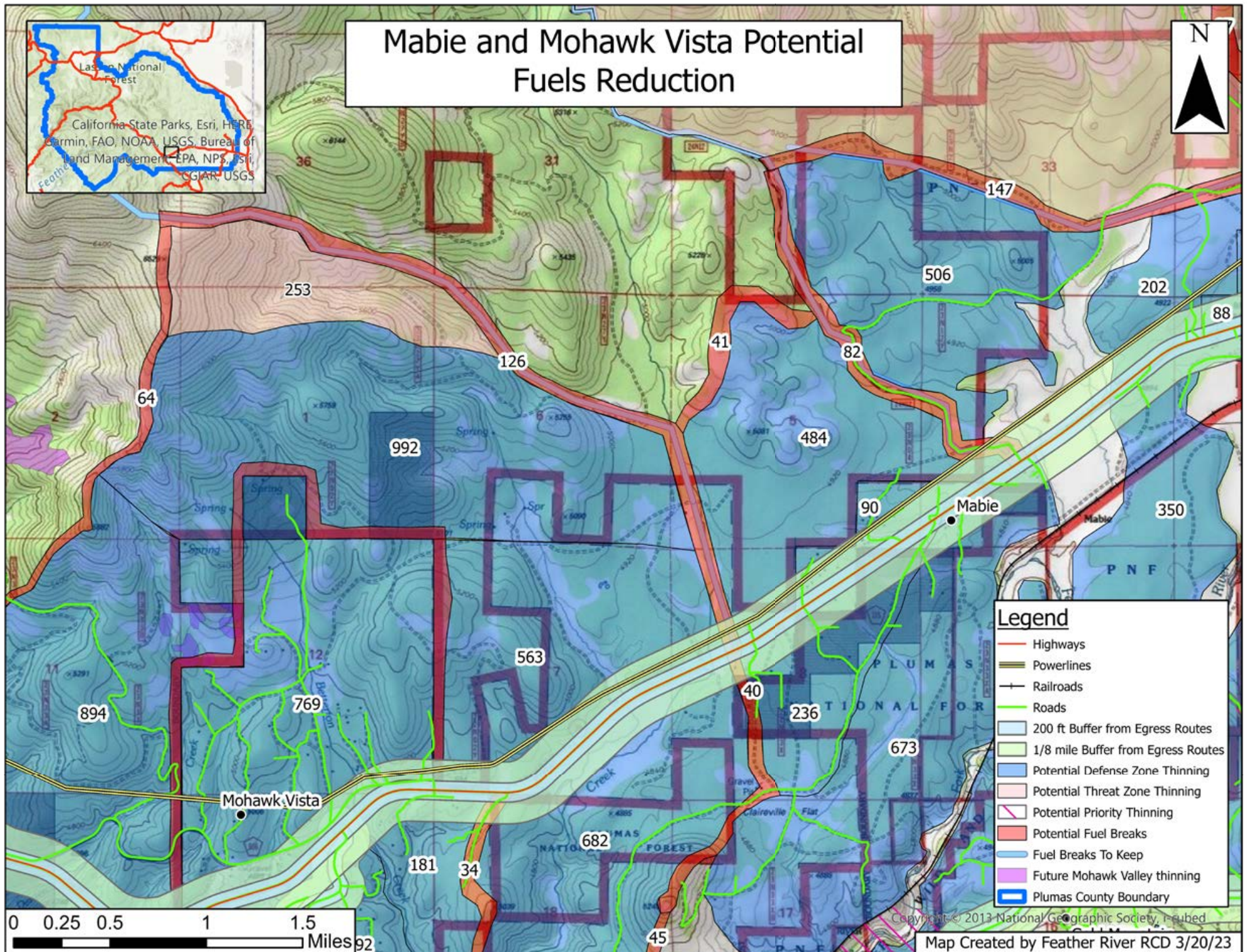
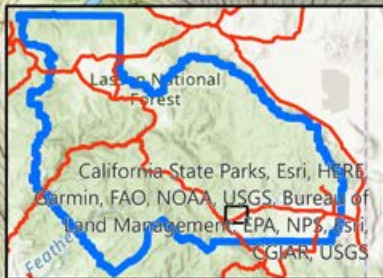
Unlike other nearby census-designated places, Mohawk Vista has no CSD or HOA, which limits the ability to perform continuous fuels reduction within the community. Additionally there are limited roads in/out of the area, which makes egress during an emergency difficult. Reducing fuels on private and federal property around Mohawk Vista is important to protecting individuals and property. Defense zone thinning surrounds the area and ties into other defense zone thinning around C-Road and Mabie to create a continuous corridor of fuels reduction that parallels SR 70 and adjacent communities all the way to Beckwourth. Potential fuel breaks are strategically placed along ridges to the west, north and east, and tie into SR 70, which could act as a fuel break to the south. The fuel break to the east follows a Forest Service fuel break that is already in place, but may require maintenance. Additional fuel breaks surround private property to add another factor to slow fire spread into the community.

“Mohawk Vista has lots of work that needs to be done. Problem is that there is no community—nothing to pull them together [like an HOA or CSD]. Work has been done, but it hasn’t been contiguous.”

— GRAEAGLE FIREWISE



# Mabie and Mohawk Vista Potential Fuels Reduction



## Legend

- Highways
- Powerlines
- Railroads
- Roads
- 200 ft Buffer from Egress Routes
- 1/8 mile Buffer from Egress Routes
- Potential Defense Zone Thinning
- Potential Threat Zone Thinning
- Potential Priority Thinning
- Potential Fuel Breaks
- Fuel Breaks To Keep
- Future Mohawk Valley thinning
- Plumas County Boundary

0 0.25 0.5 1 1.5 Miles

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Map Created by Feather River RCD 3/20/23



# NELSON POINT

## PAST TREATMENTS

Nelson Point shares a border with Plumas National Forest to the west and private industrial timberland to the east. In 2009 there was a small selection thin along the north portion of the community. In 2017 and 2018, SPI harvested timber to the east of Nelson Point. Also in 2018, PCFSC masticated and hand-thinned private property along La Porte Road (Spatial Informatics Group, 2022). In 2020, the North Complex fire came through the area, burning most of the surrounding landscape (California Department of Forestry and Fire Protection, 2022). Fuels reduction in 2021 focused on salvage logging to the South and on a private property on the north end of the community. The Forest Service's Claremont project would treat federal lands to the west of Nelson Point firewise community.

## FUELS REDUCTION

Nelson Point is a small firewise community 5 miles south of Quincy. The rural community was threatened by the North Complex fire and will be threatened by future fires in the area unless fuels reduction is regularly maintained. Potential defense zone thinning surrounds the community. This may include mastication, mechanical, and hand thinning to control brush density post-fire as well as reforestation. La Porte Road is the main egress route for this community, and could be buffered to allow for safe access out to SR 70. Potential fuel breaks follow prominent ridgelines surrounding the area and may provide another layer of defense. Additionally the Forest Service's Claremont project may treat federal lands to the west of Nelson Point firewise community.

## FIRE THREATS

Wind and topography driven fires coming up the Middle Fork Feather River canyon are a large threat to the Nelson Point community (Callenberger & Lunder, 2004).







# NORTH ARM INDIAN VALLEY

## PAST TREATMENTS

Land around the North Arm of Indian Valley is primarily managed by the Forest Service with private property closer to the valley floor and much of it burned in the Dixie Fire. The 2007 Moonlight fire also burned the northern portions of the valley. In 2009, some salvage logging took place in the Moonlight fire scar. In 2011 along the north slopes of the valley, a private timber company reforested and constructed fuel breaks on land around Moonlight Creek. Along Keddie Ridge to the west of North Arm, commercial thinning occurred from 2012 to 2014. Commercial thinning on Keddie Ridge was followed by piling, pile burning, and lop and scatter. Similarly the ravines on the east side of the valley received PCT, piling, and pile burning between 2012 and 2016 (Spatial Informatics Group, 2022).

## FIRE THREATS

Dixie Fire in August 2021 approached from the West. Moonlight fire crept down from Moonlight Peak area in September 2007 (California Department of Forestry and Fire Protection, 2022). Winds from the west and north have driven fires in this area.

## COMMUNITY PERSPECTIVE

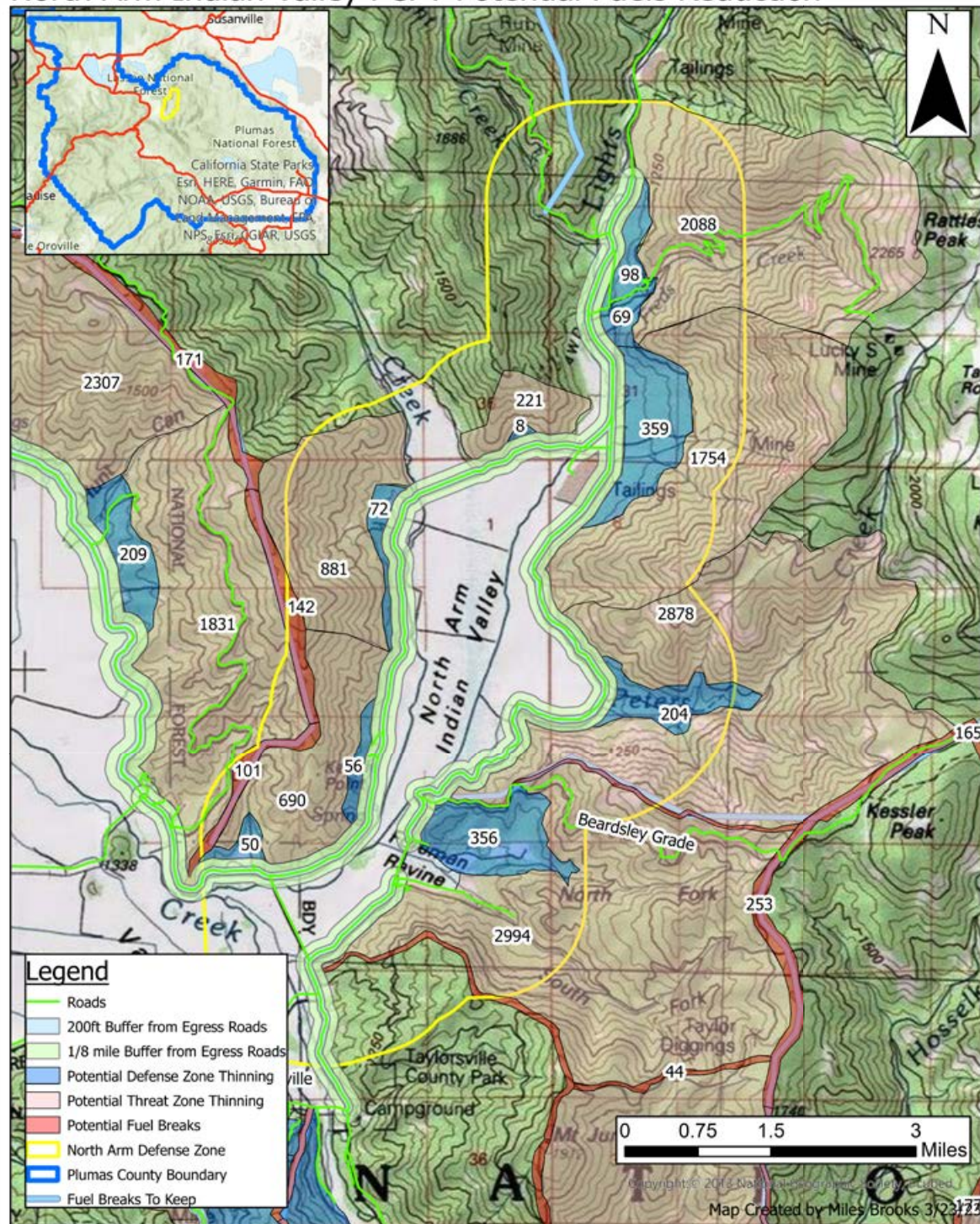
Fuel breaks and defense zones are a priority.

## FUELS REDUCTION

North Arm of Indian Valley is sparsely populated, with residences scattered around the perimeter of the valley. For that reason, we recommend priority of defense zone thinning around private residential properties. Threat zone thinning encompasses much of the surrounding slopes. Threat zone thinning, while less of a priority, would be ideal to treat to stop or slow spread around Indian Valley. However, we recognize that this is a huge amount of land. Potential fuel breaks follow ridges around the valley to ideally slow fire spread moving around the valley and aid in future wildland fire-fighting. PNF fuel breaks already exist along Keddie Ridge and near Beardsley Grade, but may require maintenance. These fuel breaks could connect to other fuel breaks around Indian and Genesee Valleys. Post-Dixie Fire there will be a lot of land around North Arm that needs regular maintenance and treatment to avoid leading to another large-scale fire.



# North Arm Indian Valley PCFT Potential Fuels Reduction





# PORTOLA & DELLEKER

## PAST TREATMENTS

We are listing past treatments in the Portola and Delleker project areas due to their proximity. Between 1996 and 2005, the Forest Service pre-commercially thinned and commercially thinned areas to the southeast of Portola towards Beckwourth Peak as part of the Mabie Defensible Fuel Profile Zone (DFPZ). In 2000, Diamond Mountain Resources thinned their property west of Portola to create a fuelbreak. In 2003, the Forest Service completed PCT north of Delleker to Lake Davis as part of the Humbug DFPZ. In 2005 and 2006, the Mabie DFPZ project also thinned land between Portola and Delleker. Plumas County Fire Safe Council also completed commercial thinning projects on private land north of Delleker. In 2009, thinning occurred north of Delleker, and mastication occurred west of Portola. In 2018 and 2020 the Forest Service completed commercial thinning and pile burning on federal land north of Delleker as part of the Hayden Project. In 2020 there was also some hazardous fuels reduction west of Portola (Spatial Informatics Group, 2022). The Eastern Plumas Wildfire Prevention project has ongoing plans to reduce fuels to the south, northwest, and northeast of Portola.

## FIRE THREATS

Wind and topography driven fires may threaten the communities from the MFFR canyon and from the north up the Humbug Creek watershed (Callenberger & Lunder, 2004).

## COMMUNITY PERSPECTIVE

Residents expressed the need for egress routes, particularly SR 70 and A15, to be cleared for safe emergency evacuation for the city of Portola and surrounding communities. Additionally, areas to the south and southwest could use immediate thinning to protect from the dominant southwest summer winds.

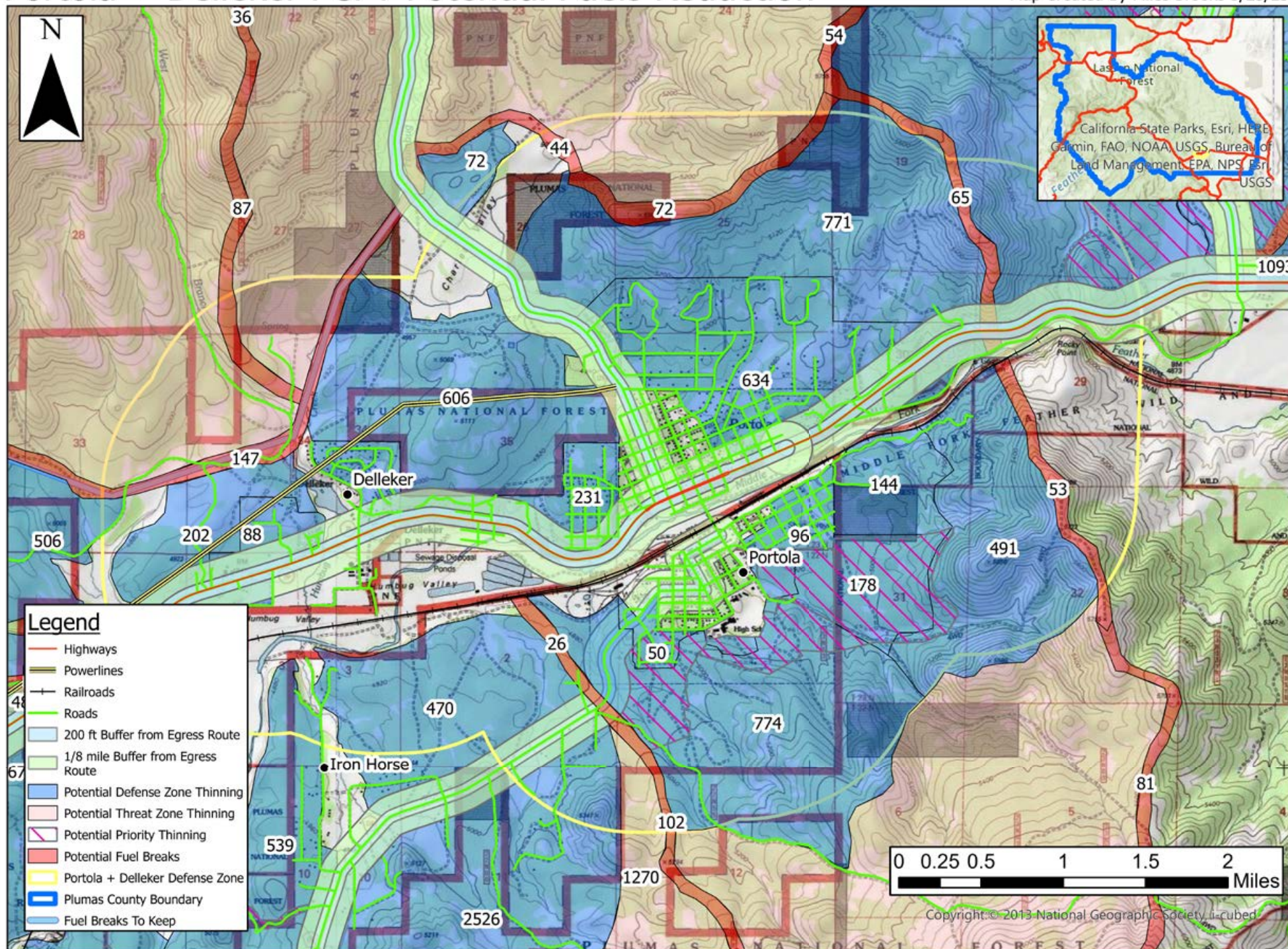
## FUELS REDUCTION

Portola is part of the greater southeast Plumas County / SR 70 corridor that connects many communities from Mohawk to Beckwourth. When viewed all together there is the potential for continuous treatments. Potential fuel breaks follow ridgelines around the city of Portola to slow wildfires originating to the east, west, or north. Additional potential fuel breaks could be added closer to the urban core, to add a means of protection for the city and a holding line for firefighters. Egress routes, particularly A15, SR 70, and Lake Davis Road should be buffered with thinning to create a fuel break and safe emergency exits for residents. Potential defense zone thinning surrounds the urban core. Private land within Portola and Delleker as well as private and federal land surrounding the towns should be thinned to protect the urban core. Potential defense zone thinning is a priority over threat zone thinning, however both are important to consider for future treatment. Plumas National Forests's Protect project will treat federal land to the south and north of the towns.



# Portola + Delleker PCFT Potential Fuels Reduction

Map Created By Miles Brooks 3/23/23





# QUINCY

## PAST TREATMENTS

Quincy and the greater American Valley, which includes East Quincy, Chandler Road, and Old Highway, is surrounded predominantly by private landowners in the valley, while the surrounding slopes are owned by the Forest Service or private timber industry. Known records of past treatments in the area go as far back as 1996 and scatter all across the surrounding areas. For the sake of brevity and clarity, we will focus on the most recent and continuous fuels reduction projects in the American Valley vicinity. Between 2004 and 2017, multiple rounds of commercial harvest, PCT, and fuel break creation occurred south of East Quincy on both private industry and federal property. Between 2007 and 2022, the Forest Service has thinned, burned, and harvested fuels along SR 70 north of Quincy. Between 2009 and 2015, private timber industries harvested and reforested areas southwest of Quincy. In 2010 and 2014, Plumas County Fire Safe Council masticated, commercially thinned, or hand thinned private properties along La Porte Road in Thompson Valley. Between 2011 and 2019, the Forest Service's American Valley Hazardous Fuels Reduction Project thinned and burned areas south of East Quincy, north of Old Highway Road, and east of Chandler Road on the slopes of Mount Hough (Spatial Informatics Group, 2022). In wildland fire history, two fires burned the hill around Old Highway Road in 1981 and 1986. Additionally the 2020 North Complex Fire and the 2021 Dixie Fire threatened the American Valley communities from the south and north respectively before they were contained (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

The greater American Valley has seen fire threats from the north and the south in recent years. Predominant summer winds come from the south and west.

## COMMUNITY PERSPECTIVE

Residents of Old Highway expressed the need for treating areas close to the community, to the east and west, that have dense vegetation. The area to the east of Old Highway in the Mattress Fire scar is dense with manzanita brush that has gone untreated for 30+ years. Additionally, the area to the west of Old Highway along SR 70 is dense and, if there was an ignition, poses a risk to the community of East Quincy as well.

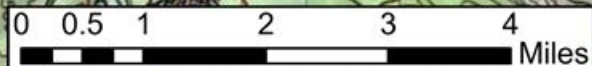
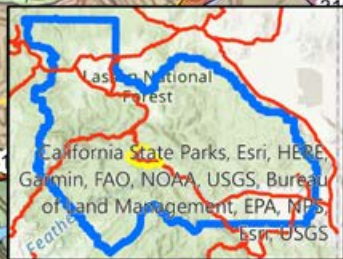
## FUELS REDUCTION

American Valley spans a large area surrounded by dense forest. This area is in a unique position in the fact that there are two large Forest Service projects, Claremont and North Quincy, proposed to reduce fuels around the communities. These maps acknowledge that much of the proposed thinning areas will be treated in the near future; however, ongoing maintenance of treated areas should continue for years to come. Potential defense zone thinning highlights areas within one-mile of the urban core that should receive regular fuels reduction in order to protect communities from future wildfire. Potential fuel breaks follow prominent ridgelines as well as Forest Service fuel breaks that have offered defense from wildfire in the past. Additional fuel breaks could be constructed closer to the urban core to provide an additional line of defense in case thinned areas fail to slow or stop future fires. Potential threat zone thinning extends beyond the defense zone and ties into thinning for other communities, such as Butterfly Valley to the north, Massack to the east, and Meadow Valley to the west. Creating a continuous fuels reduction project across the landscape would provide security to the area, and allow for larger scale prescribed fires necessary to fuels reduction.



## Quincy Potential Fuels Reduction Projects

Map Created by Feather River RCD 3/27/23



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# SENECA

## PAST TREATMENTS

Seneca is a small community south of Canyon Dam along the NFFR. The Kingsbury Rush DFPZ was implemented in 2003 by the Quincy Library Group, which included fuel breaks of ~30% canopy cover along the Rush Hill ridge to the east of Seneca. The Chips fire burned most of the Seneca area, but the DFPZ kept the fire contained to this canyon (at least on the eastern side) (California Department of Forestry and Fire Protection, 2022). Post Chips Fire between 2013 and 2016, there has been a lot of salvage logging, hazard tree removal, and reforestation (Spatial Informatics Group, 2022). The 2021 Dixie Fire burned much of this area, including the DFPZ, which had not been maintained since 2003.

## FIRE THREATS

Historically, fires have approached Seneca from the southwest, up the NFFR canyon. Past fires have created a shrub-dominant landscape, which is a big fire threat. There is also a threat of fire from the east due to eastern winds in the fall.

## COMMUNITY PERSPECTIVE

Seneca Road still has many hazard trees, and clearing around that road from SR 89 to Butt Valley Reservoir is crucial for egress from Seneca. To protect from fires from the southwest, fuels reduction and fuel breaks down the canyon should be established and maintained. To add protection from fires from the east, the Rush Hill DFPZ fuel break should be maintained. Private landowners would also like to see National Forest land around properties maintained for brush control.

## FUELS REDUCTION

Due to the steep, rocky terrain, prescribed fire and hand thinning are the most feasible and desired solutions. Commercial thinning and harvest are also a potential solution on favorable terrain. Defense zone thinning highlights areas for fuels reduction treatment in the lower slopes of the canyon. Dense conifer forest and brush stands create high fuel loads that are prone to high intensity fire. Defense zone thinning surrounds most of the private parcels around the Seneca community. Threat zone thinning highlights up-slope areas closer that are further from private parcels. Threat zone thinning would protect the community from fires from the west and east. Potential fuel breaks follow ridgetops that are strategic for slowing a fire from any direction. Fuel breaks to the southwest are key to slow fire coming from the Feather River Canyon. Fuel breaks to the east follow a Forest Service fuel break, which requires regular maintenance in order to still be effective. Fuel breaks tie in with Canyon Dam fuel breaks and SR 89.







# TAYLORSVILLE

## PAST TREATMENTS

Taylorsville is surrounded by private industrial timberland to the west and PNF to the south and east. Chy Company owns land to the west of town, and they have completed some fuels reduction (whether that be commercial thinning, PCT, or hand thinning) in 1999, 2009, and 2018. On National Forest land to the south of town, towards Mount Hough, there have been a series of fuels treatment including mastication in 2011, commercial thinning in 2012, 2013, 2014, 2015, and 2018, and hand piling and pile burning in 2011, 2015, 2016, 2018, and 2020. On National Forest Land east of town, on the slopes of Mount Jura, there has been PCT, piling, and pile burning in 2003, 2008, 2009, 2011, and 2012. Also to the east of town, Plumas County Fire Safe Council treated fuels in 2009 and the Forest Service harvested or thinned fuels in 2018 (Spatial Informatics Group, 2022). The Dixie Fire largely avoided the Taylorsville defense zone, but burned on the Mt Jura side and on the upper slopes of Mt Hough (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

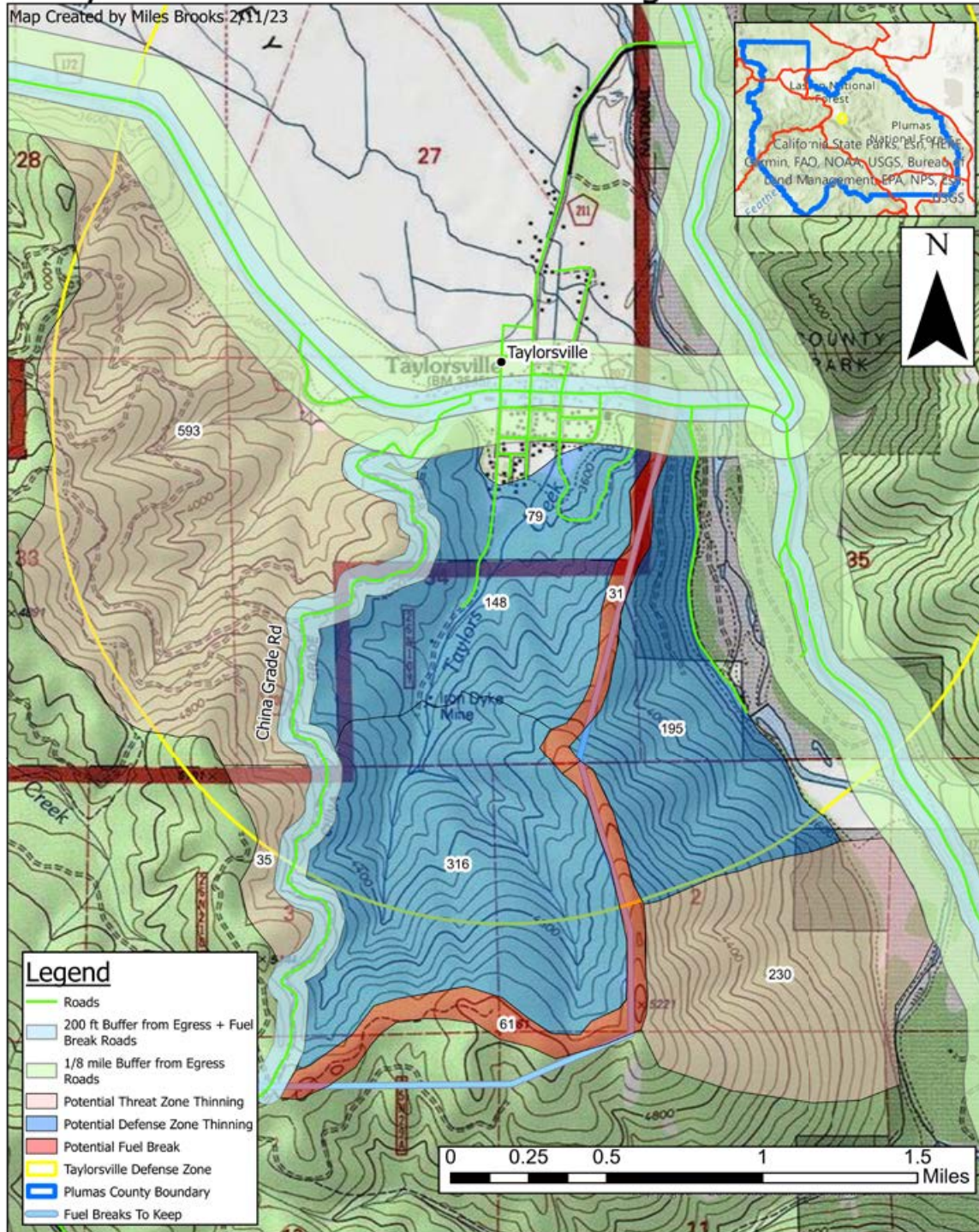
Taylorsville is threatened by wind driven fires to the west, such as up the NFFR canyon.

## FUELS REDUCTION

Taylorsville is situated at the base of the Taylor Creek watershed on the north side of Mount Hough. Potential fuel breaks surround the Taylor Creek watershed to minimize fire threats directly to the town. China Grade Road could be a potential fuel break in addition to the Forest Service fuel break to the southeast of Taylorsville. Defense zone thinning is proposed in between the fuel breaks and in the Taylor Creek watershed to potentially slow future fires. Future management could utilize prescribed fire along with mechanical or hand thinning to reduce fuels in this landscape. Additional potential defense zone thinning on the east slope could address threats from the south and southeast. There are also high density fuels to the east and west of Taylorsville, some of which are incorporated in threat zone thinning.



# Taylorville PCFT Potential Thinning and Fuel Breaks





# TWAIN

## PAST TREATMENTS

This area of the canyon has seen multiple fires since 1919. The most recent and notable are the 2008 Rich Fire on the west side of this project area, and the 2021 Dixie Fire that burned at high severity through much of the Twain area. In reaction to the Rich Fire, the Forest Service launched the Rich Fire Recovery Project, which included salvage timber harvesting, PCT, piling, lopping and scattering, yarding, and reforestation, around the Rich Gulch/Rush Creek area in 2011 and 2012. In 2013, the Forest Service reduced fuels near Twain using PCT and piling tactics. Piles were burned in 2014. In 2015 a private industrial timber company harvested timber along the ridge NW of Twain. Also in 2015, more Forest Service-led Rich Fire restoration, including PCT, piling, and pile burning occurred on the south side of the canyon. Additional fuels reduction, commercial harvest, and controlled burns took place on the Southern portion of the canyon in 2019 and 2020 (Spatial Informatics Group, 2022).

## FIRE THREATS

Judging by past fires, predominant fire threat approaches from the west and southwest from fires originating down the canyon. Topography and winds make this canyon susceptible to fires.

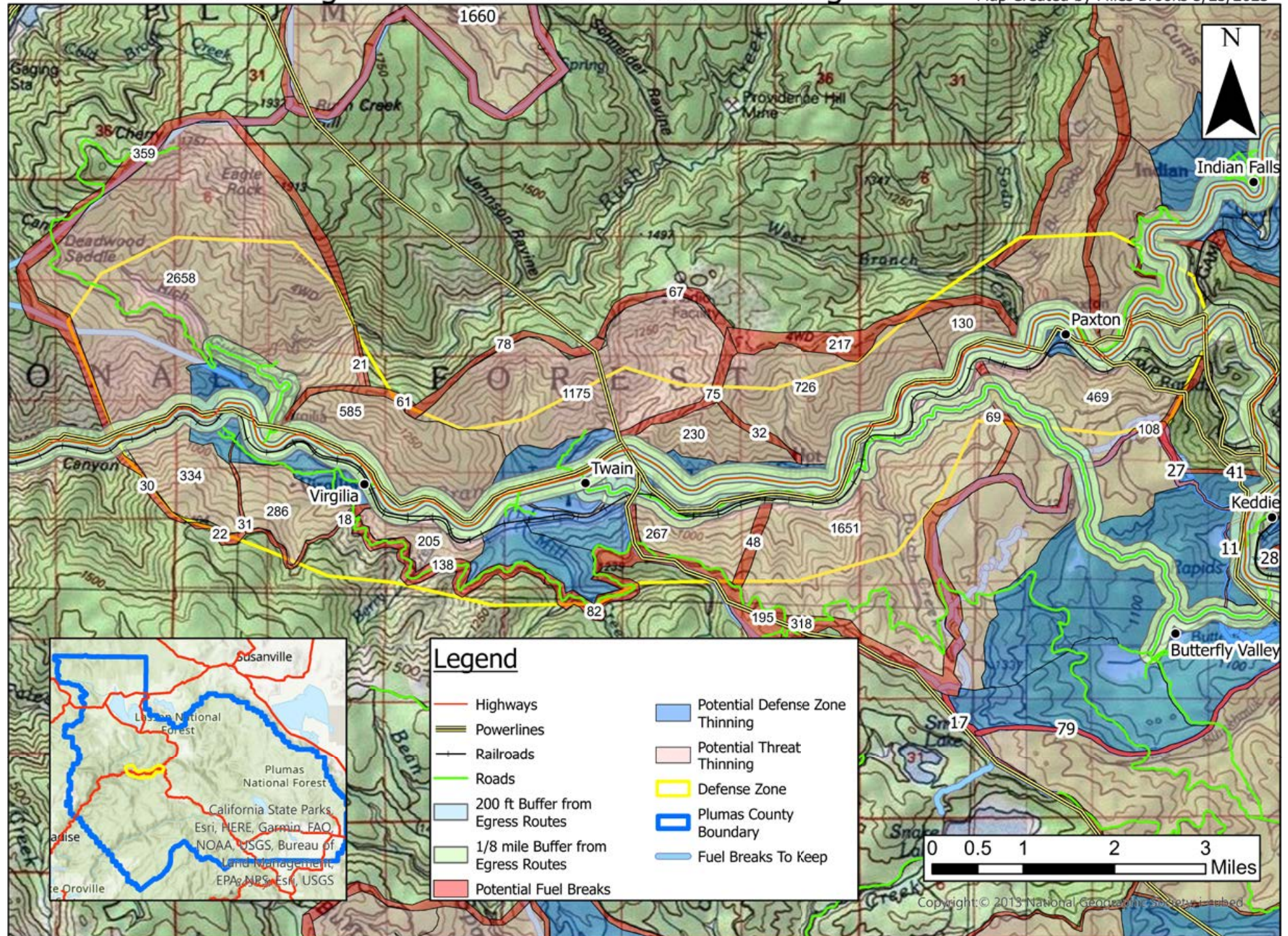
## FUELS REDUCTION

The North Fork Feather River Canyon, which includes this portion between Rush Creek to the Greenville Wye, is characterized by steep, rocky canyon walls, which likely makes fuels reduction difficult. Therefore, we suggest prioritizing the potential defense zone thinning, which surrounds lower slopes around communities at the bottom of the canyon. Potential threat zone thinning extends from potential defense zone thinning to the potential fuel breaks, which follow predominant ridges or roads. All potential thinning projects should be regularly maintained—around every 10 years—to prevent the build up of fuels in this highly flammable canyon. This could look like initial fuels reduction (hand thinning, mechanical thinning, and harvest when possible) and then regular prescribed burns using fuel breaks as holding and firing lines. Some of the proposed project area, including most of the southeast portion, is slated to be treated under the Forest Service's Butterfly Twain Fuels Reduction and Landscape Restoration.



# Twain + Paxton + Virgilia PCFT Fuel Breaks and Thinning

Map Created by Miles Brooks 3/23/2023





# VALLEY RANCH

## PAST TREATMENTS

The only known past treatment in the area is PCT on PNF land north-east of the community in 2004 (Spatial Informatics Group, 2022).

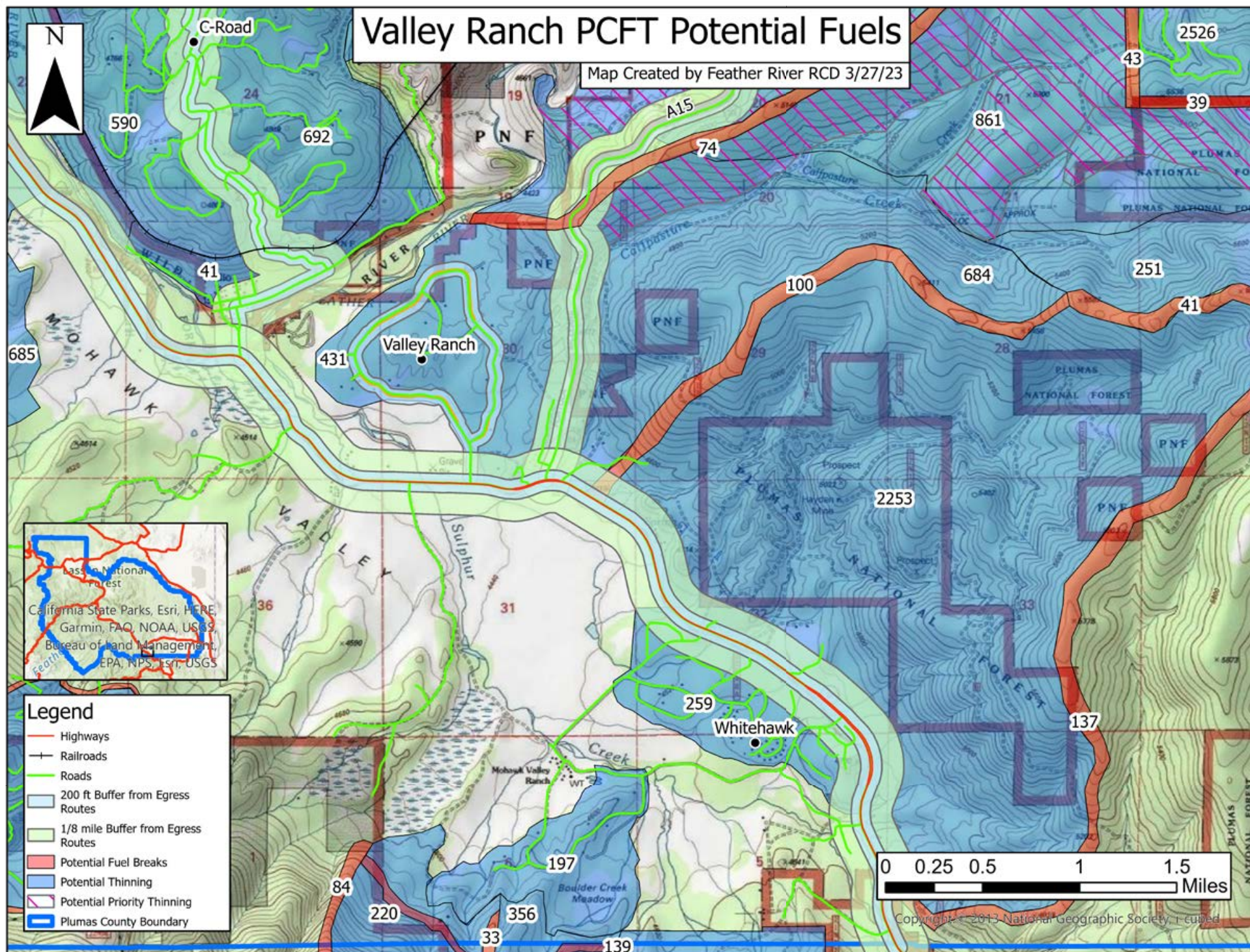
## FIRE THREATS

Predominant wind comes from the southwest. High fuel loads and lack of disturbance history put this area at high risk of wildfire (Bradfield, 2019).

## FUELS REDUCTION

Many of the properties within the Valley Ranch HOA will undergo fuels reduction in the form of mastication or hand thinning in 2023 as part of the Mohawk Valley Communities Hazardous Fuels Reduction / Eastern Plumas Wildfire Prevention Project by PCFSC. Valley Ranch is surrounded on two sides by SR 89 and County Road A15, both of which could provide a fuel break. The Middle Fork Feather River provides additional protection on the northwest side. A fuel break to the north of the community could provide protection from northern threats. Potential defense zone thinning surrounds the whole community and adjacent properties including PNF and Graeagle Land & Water. Anything not treated in 2023 should likely receive some treatment in the future. Egress routes should also be buffered to establish a fuel break as recommended by Danielle Bradfield in the “Valley Ranch Hazardous Fuels Assessment.”







# WARNER VALLEY & NORTH FORK FEATHER RIVER HEADWATERS

## PAST TREATMENTS

Warner Valley itself has had minimal management beyond that taken by private landowners. Post fire tree removal ( the Feather River RCDs site preparation and replanting in 2023. However surrounding areas such as the Feather River Meadow and Feather River Homesite there have been a number of commercial harvests and precommercial thinning projects in 1997, 2000-2002, 2004-2015. There were also aspen enhancement projects in the area between 2010 and 2016. Near the Feather River Homesite there were prescribed burns in 2004 (Spatial Informatics Group, 2022). Most of this area burned in the 2021 Dixie Fire (California Department of Forestry and Fire Protection, 2022).

## FIRE THREATS

Dixie Fire approached Warner Valley and surrounding communities from the South. There is only one major route out of the community (south towards Chester). Community borders Lassen NP to the north, which could also be a fire risk.

## FUELS REDUCTION

Reducing fuels around emergency egress routes is a priority to maintain this community's safety. Potential defense zone thinning surrounds private parcels in Warner Valley and nearby. Most of this area burned in the Dixie Fire, so brush control will be the main fuels reduction activity, either via mastication or mechanical thinning. Feather River RCD is working with private landowners to site prep and replant their properties in Warner Valley. The upper portions of Warner Valley's steep slopes are listed as potential threat zone thinning because they do not immediately threaten the community, but may affect fire behavior in the area. The ridges surrounding Warner Valley could be sites for potential fuel breaks to slow fire approaching from the east or west. To the south, a potential fuel break from Stover Mountain across North Stover Mountain could provide additional protection from southwestern fire threats. Connecting fuels reduction between Chester and Warner Valley in the North Fork Feather River watershed may also reduce future fire threat in the area. To the north, the community borders Lassen National Park. No fuels treatment is proposed for the national park land because we were unsure if fuels reduction is permitted in that jurisdiction. However, Flatiron Ridge, Pilot Mountain and Saddle Mountain could be strategic areas for potential fuel breaks to protect the community from the north.



Map Created By Feather River RCD 1/14/23





# WHITEHAWK

## PAST TREATMENTS

The Firewise community lead provided us with past treatments dating back to 2006. In 2006, PCFSC conducted 105 acres of hazardous fuel reduction and commercial thinning in the southern portion of Whitehawk Ranch. In 2010, Eastern Plumas Hazardous Fuel Reduction thinned 68 acres within Whitehawk. In 2015, 2016, and 2018 thinning occurred within Whitehawk—reducing fuels on private and community owned properties. Some of these areas will be treated again in 2023. In 2017 and 2018, fuelbreak construction and commercial thinning took place on Graeagle Land & Water land to the east of Whitehawk across SR 89.

## FIRE THREATS

Predominant winds come from the south and southwest. Untreated Forest Service land to the south poses a threat. Additionally, some private landowners, either within the Whitehawk community or adjacent, are unwilling to reduce fuels on their property. There are also areas within the community that have not yet been thinned because they require hand thinning. Even small untreated areas make the whole neighborhood susceptible to spot fires that can move through the community.

## COMMUNITY PERSPECTIVE

According to residents, priority areas to thin are to the south of the community on private and federal property. Filling in the gaps of what has been treated would be a priority as well (Bradfield, 2017), although those property owners may not be cooperative. Some residents could also use thinning within their defensible space.

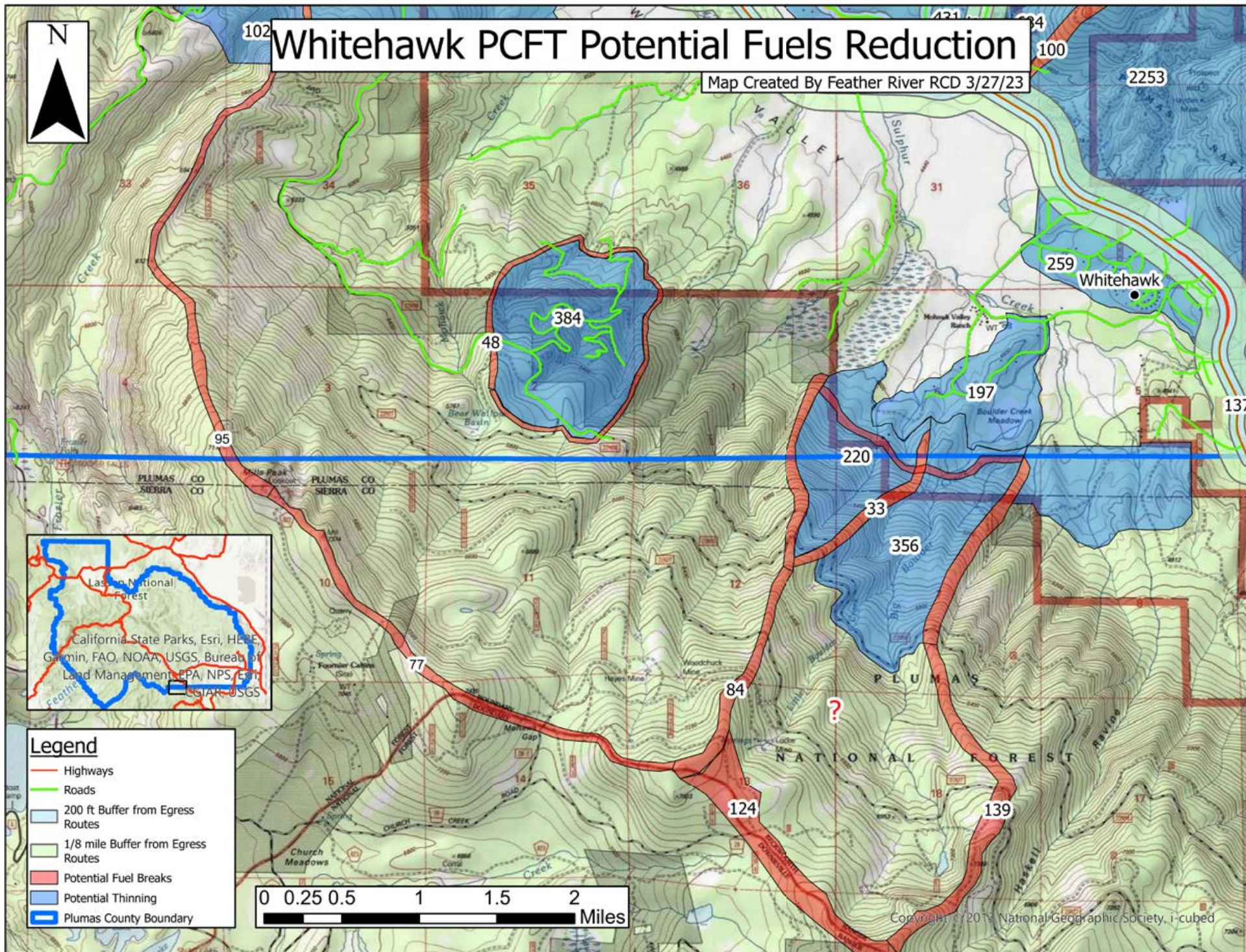
## FUELS REDUCTION

Whitehawk Ranch and Firewise community has been very proactive with fuels reduction in the community since 2006. There are plans to conduct fuels reduction within the community and neighboring communities (Valley Ranch, Smith Creek) in 2023. In addition the Forest Service's Protect Project would thin the National Forest south of the community. Residents would like to see private parcels between the National Forest and Whitehawk Ranch treated for fuels reduction—particularly areas to the south and southeast. Fuel breaks to the south of the community and up the slopes of the mountains could add protection from approaching fires. Fuel break construction should start close to communities and work their way up and may not be necessary to go all the way up the mountains. Having a fuel break directly south of the community could add protection as well as a holding line for future fire fighting or prescribed burns. Potential defense zone thinning surrounds most of the Whitehawk Ranch HOA / CSD to indicate that whatever has not been treated recently needs treatments, and whatever has been treated may need maintenance in the future. Potential defense zone thinning was added to the southeast of the community based on recommendations from residents. This proposed thinning falls outside of Mohawk Ranch, but neighbors the community and thus poses a threat if there was a crown or spot fire.

“For fuel breaks start close to the community and work way up to the ridge. Then make a fuel break behind the properties [on the south side]. You probably do not need to go all the way up the ridge”

— WHITEHAWK RANCH RESIDENT







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# FEATHER RIVER

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