



CAL FIRE Sonoma-Lake-Napa Unit 2023 Strategic Fire Plan



Unit Strategic Fire Plan Amendments

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SIGNATURE PAGE

The Unit Strategic Fire Plan is developed for the Sonoma-Lake-Napa Unit

This Plan:

- Was collaboratively developed. Interested parties, Federal, State, City, and County agencies within the Unit have been consulted and are listed in the Fire Plan.
- Identifies and prioritizes pre-fire and post-fire management strategies and tactics meant to reduce the loss of values at risk within the Unit.
- Is intended for use as a planning and assessment tool only. It is the responsibility of those implementing the projects to ensure that all environmental compliance and permitting processes are met as necessary.

Mike Marcucci

Date

Unit Chief

Mike Wink

Date

Pre-Fire Division Chief

EXECUTIVE SUMMARY

The California Department of Forestry and Fire Protection (CAL FIRE) Fire Plan is the State of California's gateway plan for reducing the risk of devastating and destructive wildfires. Sonoma-Lake-Napa (LNU) Unit's Strategic Fire Plan strives for the highest level of fire protection in Colusa, Lake, Napa, Solano, Sonoma, and Yolo counties through constant evaluation of fire problems. LNU, along with the cooperation of key stakeholders, builds its Fire Plan to emphasize and focus on goals set forth to provide safety and protection to its Firefighters & Civilians, reduce property losses and firefighting cost and enhancing the ecosystem health. LNU's Fire Plan goals and objectives have been developed to continue building resilience and resistant to damaging wildfire, while also recognizing fire's beneficial aspects to forestry and environment practices.

LNU's Fire Plan utilizes these objectives to accomplish its goals:

- **Educate and participate with communities and stakeholders to evaluate fire prevention concerns and exposure.**
- **Collect data for proper record keeping, to analyze historical values, to benefit from trends associated with weather patterns, fuel contents, and project responsibility within the FirePlan.**
- **Monitor effectiveness of Unit programs, projects and initial attack successes.**
- **Identify and improve areas of Wildland Urban Interface (WUI).**

LNU's Fire Plan addresses the variation in fuels, weather and topography throughout the dynamic and diverse Unit. This Fire Plan will consider the priorities of all communities and agencies within the boundaries of LNU. It is intended to be an active planning tool for wildfire protection efforts and continues to educate itself from current and historical events within the Unit.

SECTION I: UNIT OVERVIEW

LNU is one of twenty-one CAL FIRE administrative units. The Unit was created in January 1997 when the Sonoma Ranger Unit and the Lake-Napa Ranger Unit were merged into one. LNU has primary responsibility for more than 2 million acres of CAL FIRE Direct Protection Area (DPA) lands¹. LNU has the third largest population living within CAL FIRE DPA, has had the largest number of reported total acres total burned, and ranks number 4 in total annual fires.²

A. Unit Description

Operationally, LNU is divided into 4 divisions and 10 field battalions. West Division is defined by the boundaries of Sonoma County and is comprised of 4 field battalions. South Division is defined by the boundaries of Napa County and is comprised of 3 field battalions. North Division is defined by the boundaries of Lake County and is comprised of 2 field battalions. East Division is defined by the boundaries of Yolo, and Colusa counties. The East Division is comprised of a single battalion. Solano County is covered by one of the South Division battalions.

LNU's Central and Pre-Fire Division do not have geographic boundaries, because they direct programs that serve Unit wide. The Central Division is comprised of Fleet, Training Bureau, Safety, and Capital Outlay Projects (facilities). The Pre-Fire Division is comprised of the Vegetation Management Program, Pre-Fire Engineering, Public Information Office, ,Public Education, Environmental Review, Fire Weather, Fuels Monitoring, Research, Grants, Burn Permits, Prescribe fire, Defensible Space and Damage Inspection. The St. Helena Emergency Command Center is overseen by the Unit Deputy Chief, and the Fire Prevention Bureau reports directly to the Unit Chief.

(See Appendix A: Unit Matrix)

LNU is in California's northern coastal region, bounded by the Pacific Ocean to the west, San Francisco Bay to the south, Sacramento Valley to the east, the Mendocino National Forest to the north and Mendocino County to the north-northwest. LNU's lowest elevation is sea level at the ocean and peaks at 7,055 feet atop Snow Mountain to the East.

There are more than 55 miles of shoreline that make up Sonoma County's western border. They are rugged, dramatic, scenic, and diverse. Sonoma County Regional Parks offer variety of fishing locations, from Bodega Bay and North Coast beaches to the Russian River and inland lakes and ponds. The Russian River is also a popular summer resort area, and is known for Armstrong Redwoods State Natural Reserve, established to preserve 805 acres of coastal redwoods. Inland from the coastline, the environment is as varied as the terrain; along the Sonoma/Lake County line, lies The Geysers, a natural and engineering marvel. The

Geysers are the largest geothermal field complex in the world, generating approximately 750 Megawatts of electricity, enough to power 900,000 homes³.

World renowned vineyards thrive in the counties of Sonoma, Lake and Napa. The Napa Valley enjoys a Mediterranean climate and is home to more than four hundred wineries. With wine as a focus, great dining has naturally emerged to complement it. The Culinary Institute of America at

¹ <https://calfire-forestry.maps.arcgis.com/home/index.html>

² https://www.fire.ca.gov/media/iy1gpp2s/2019_redbook_final.pdf

³ <https://geysers.com/geothermal>

Greystone in St. Helena supplies a steady stream of well-trained chefs. Over 50 years ago, members of the Wappo Tribe were the first to discover a natural volcanic hot spring near the foot of Mount St. Helena. With its geothermal hot springs of mineral water running underground, Calistoga has a renowned history as a place of healing. The Veterans Home of California, located in Yountville, was founded in 1884. The facility is the largest of its kind in the United States and has approximately 800 aging and or disabled Veteran residents. This Veterans Home also houses the alternate seat of government for the governor's office.

Lake County takes its name from Clear Lake, which is the largest natural lake wholly within California. Clear Lake is estimated to be 2.5 million years old and is thought to be the oldest lake in North America. Lake County is the largest supplier of premium fresh Bartlett pears, and is home to the Clear Lake Hitch, a native fish found only in Clear Lake, and "Lake County Diamonds", which are semi-precious stones of volcanic origin found nowhere else in the world. Looming over the lake's southern shore and viewable from most areas of the county is Mt. Konocti, which was formed by multiple volcanic eruptions, between 100,000 to 600,000 years ago.⁴

Colusa County is one of the original counties of California, created in 1850 at the time of statehood. Colusa County is known for its wildflowers, wildland refuges, waterfowl hunting and agriculture. Colusa County harvests thousands of acres in almonds and rice each year. Many streams drain into the county, including Elk Creek, Salt Creek, Stony Creek and Bear Creek.⁵

Yolo County is a relatively rural agricultural region. The county is home to the Port of West Sacramento, an inland port located 79 nautical miles northeast of San Francisco.⁶ The port is used for the export of bulk rice, construction materials and equipment. Yolo County is home to the Yolo Bypass Wildlife Area located in the Pacific Flyway, a 16,600-acre haven for fish, waterfowl, birds, raptors, invertebrates and toads. This wildlife area is home to a large colony of Mexican free-tailed bats. The University of California, Davis is the largest employer in the county, and is home to the Agricultural Sustainability Institute, which provides leadership for research, teaching, outreach, and extension efforts in agricultural and food system sustainability.

Solano County is home to the Suisun Marsh, the largest contiguous estuarine marsh in the United States. Duck clubs dominate this land of tulles and wetlands. The rural areas provide places for recreational activities that include boating, fishing and hunting. Solano County retains a rural feel due to a voter-passed law that funnels most growth into the county's seven cities.

Agriculture is the main land use in the county, and farmers grow everything from tomatoes to peaches to sunflower to alfalfa. Ranchers have sheep, cows and other animals. The western portion of Solano County has oak-studded hills and valleys while the eastern part consists of a network of sloughs, the Sacramento River and the Delta. The Eel River starts in the Mendocino National Forest, travels through Lake Pillsbury where it then splits going west to the Pacific Ocean and the south merging up with the Russian River.⁷

LNU is characterized by steep slopes and valleys with the main ridges oriented north-northwest to south-southeast. The Northern Coast Range that runs the length of the Sonoma County

⁴ [https://en.wikipedia.org/wiki/Clear_Lake_\(California\)](https://en.wikipedia.org/wiki/Clear_Lake_(California))

⁵ https://en.wikipedia.org/wiki/Colusa_County,_California

⁶ https://en.wikipedia.org/wiki/Yolo_County,_California

⁷ https://en.wikipedia.org/wiki/Solano_County,_California

includes the Mayacamas Mountains and Sonoma Mountains. LNU contains several prominent ridges that affect weather, fuels and fire behavior. Some of those ridges include but are not limited to; Walker Ridge, Creighton Ridge, Black Mountain Ridge, Blue Ridge, Rocky Ridge, Clark Ridge, Bear Valley Buttes, Telegraph Ridge and Cortina Ridge. The Unit's watersheds drain into three hydrologic regions: North Coast, San Francisco Bay, and Sacramento River. The Russian River drains from the north along the Highway 101 corridor and turns west to the Pacific Ocean. The Petaluma River drains to the south through Petaluma's old town, and the Napa River drains to the southeast down the Napa Valley, both into San Francisco Bay's San Pablo Bay. Putah Creek is an 85-mile-long creek, which has its headwaters in the Lake County side of the Mayacamas Mountains (a part of the Coast Range) and flows into Lake Berryessa, formed by Monticello Dam. Cache Creek starts at the outlet of Clear Lake. It has two main tributaries: North Fork and Bear Creek. Putah Creek and Cache Creek both feed into the Sacramento River, which drains to the south down the Sacramento Valley into the Sacramento/San Joaquin River Delta. The Eel River starts in the Mendocino National Forest, travels through Lake Pillsbury where it then splits going west to the Pacific Ocean and south merging up with the Russian River.

The Unit includes incorporated cities and unincorporated communities, districts of various kinds, including community service districts, fire districts, water districts, and others established to provide specific services. Housing subdivisions in the wildland and continuous areas of Wildland Urban Interface (WUI) are predominant around the populated centers and continue to increase in population size and number due to economic development.

LNU's population density and land use come from the agriculture and a variety of tourism, with millions of visitors coming to enjoy the region's wine industry, commercial fishing, recreation, hospitality, agriculture, manufacturing, and healthcare.

LNU has seen non typical weather patterns in the past 5-7 years. With California's climate changing, significant wind events along with much less rain fall has created dangerous fire conditions than previous decade. The weather can vary greatly on the same day in different parts of the Unit. An average summer day may find the coastal areas at 60 degrees, with dense fog, while inland temperatures climb from 90 to 100 degrees Fahrenheit. The warmer the Sacramento Valley becomes, the deeper fog intrudes from the ocean up the coastal drainages, and the windier the inland valleys become. Diverse microclimates benefit from having four seasons and somewhere between 23 to 85 plus inches of annual rainfall, depending on the location, elevation, and weather patterns. Fire season in LNU typically lasts from early June to into November.

Vegetation fuel types in LNU consist of grass, oak woodlands, brush, mixed chaparral and timber. Brush is usually composed of chemise on the south and west facing slopes and mixed chaparral on the north and east facing slopes. Along the coastline you will find larger timber stands of Redwoods, Douglas Fir, Pine, Alder and mixed oaks.

⁸ <https://calscape.org/plantlist/8535>

B. Unit Preparedness and Firefighting Capabilities



Figure: 1, LNU Type 3 Fire Engine



Figure: 2, CAL FIRE Hawk-70I



Figure: 3, CAL FIRE Bull Dozer



Figure: 4, Example of Local Government Resources



Figure: 5, Chief Vehicle



Figure: 6, Napa County Schedule A Type I Engine

LNU headquarters is located in Napa County just north of the city of St. Helena. Our Emergency Command Center (ECC) Radio identifier (Call Sign) is “St. Helena” and is used to identify itself while resources travel throughout the Unit for accountability. Initial attack agencies who respond to emergencies include but not limited to: Local Government Fire, US Forest Service, CAL FIRE units, with a variety of resources including, Battalion Chiefs, fixed wing aircraft, helicopters, fire engines, bull dozers, fire crews, water tenders and other support vehicles. (See Figures: 1-6)

LNU has two categories of operations: “Schedule A” and “Schedule B”. Schedule B is the state-funded wildland fire protection mission in State Responsibility Area (SRA), and LNU has the

largest Schedule B and State Responsibility Area in the state.⁹ In addition to the state-funded wildland fire protection mission, CAL FIRE LNU is contracted to provide personnel and services for the Napa County Fire Department, South Lake County Fire Protection District, and the North Sonoma Coast Fire Protection District. These contracts are known as “Schedule A” agreements, and benefit both the state and local government agency in different ways. The state benefits by having a diverse group of employees trained and experienced to mitigate any scale or scope of an emergency incident, and local governments benefit by having support and management services provided by an all-risk fire agency respected all over the world. LNU also has “Amador” agreements to provide fire protection to areas around the City of Petaluma in Sonoma County, as well as the Napa County Fire Department and the South Lake County Fire Protection District. An Amador agreement continues the Schedule B CAL FIRE staffing and station coverage throughout the winter. To qualify for a contract, the requesting agency or district must also have a working fire department. An Amador agreement is designed to augment the existing fire department, not replace it.



Figure: 7, South Lake County Rescue



Figure: 8, The Sea Ranch Fire Station

LNU personnel during peak fire season include approximately 380 permanent personnel and approximately another 282 seasonal personnel of all job descriptions. This staffs 21 fire stations, 31 engines, 5 Reserve Engines, 6 bulldozers, 1 Reserve Bulldozer, 2 Conservation Camps, 1 Fuel Reduction Crew, 1 Fire Center, 1 Firefighter Handcrew, 1 Helibase, 1 Helicopter, 1 Air Attack Base, 1 Air Attack and 2 Air tankers and many other support staff positions. A typical fire station will house between 3-12 personnel on a given day.

During the 2020 record-breaking fire season, California had five of its six largest fires in modern history, all burning at the same time. California’s Governor has funded an augmented 1,399 additional firefighters to support California’s Wildfire and Forest Resilience Action Plan. This Plan implements four main goals set forth to help; 1) increase the pace and scale of forest health projects, 2) strengthen protection of communities, 3) manage forests to achieve the state’s economy and environment and 4) to drive innovation and measure progress. LNU has hired an additional 70 seasonal firefighters. This will increase staffing levels for firefighter hand crews, engines, helitack crews, dozer swampers and support personnel.

The California Department of Corrections and Rehabilitation (CDCR) and CAL FIRE collaborate to sustain effective and efficient fire crews with the expectations to construct hand line, mop-up, post-fire patrols, and assist with fire line suppression repair. LNU has two Conservation Camps

⁹ https://www.fire.ca.gov/media/iy1gpp2s/2019_redbook_final.pdf

located in Solano and Lake Counties that currently support 3 inmate crews at Delta and 2 crews at Konocti. This has been a reduction from the funded 6 at Delta and 5 crews at Konocti, due to declining prison population and available qualifying inmates for fire crew assignment. This decline in the prison population is largely related to various changes in sentencing law. For example, the 2011 realignment shifted responsibility for housing and supervising some felons from the state to the counties. Proposition 47(2014) changed some crimes from felonies to misdemeanors, reducing both state and county correctional populations. Since the qualifying characteristics of an inmate suitable for fire crew assignment are incidentally the very same inmates affected by the changes in sentencing laws, it is unlikely CAL FIRE inmate fire crew numbers will ever return to historic funded levels again.

In January 2020, LNU administratively took over a CAL FIRE Region Fuels Reduction Crew. Originally implemented at a region level to support Governor Newsom's "Emergency Projects to Protect Wildfire-Vulnerable Communities", this resource is now Unit funded and staffed to help with vegetation management and fuel reduction projects in support of the Unit Fire Plan. Ways they reduce the fuel loading in project areas include prescribed burning, hand and mechanical fuel reduction, fire planning and fire prevention education, with an emphasis on improving public health and safety, while reducing wildfire potential to California communities and forests. They are also available for fire line assignment but are not an ICS typed handcrew.

The helitack base located at Boggs State Forest is home to helicopter 104 (C-104), a Sikorsky S-70I. C-104's primary objective is initial attack on wildland fires, but can also perform air rescue operations, Medi-vac, reconnaissance, mapping missions, crew transports, cargo delivery, and other related missions. C-104 is staffed with 2 Pilots, 6 Fire Captains, 3 Fire Apparatus Engineers, 16 Firefighters and 2 Mechanics and has a fixed tank that can carry up to 1,000 gallons of water. Deployment of the crew and helicopter involves dropping off one Fire Captain and the firefighters, working in conjunction with the helicopter by dropping water on the fire while crew performs perimeter control. Future capabilities could include night operations; this would require outfitting the ships with night-vision equipment, crew training, and increasing staffing to support 24-hour operations.

Sonoma Air Attack Base, located at the Santa Rosa Municipal Airport, provides fixed wing firefighting aircraft coverage 7 days a week, during the daylight hours of fire season. Tankers 85 and 86 are Grumman S2T turboprop air tankers, each capable of dropping 1,200 gallons of fire retardant. Air Attack 140, a North American Rockwell turboprop OV-10 "Bronco" plane, carries a Pilot and the Air Tactical Group Supervisor, who is responsible for airspace coordination and aerial fire suppression activities from an orbit above the fire. The Air Base is staffing with 1 Battalion Chief, 2 Fire Captains, 3 Fire Apparatus Engineers, 10 Firefighters, 3 Pilots, 1 Mechanic and 1 Call When Needed Manager. **(See Figure: 9)**



Figure: 9, Tanker 85 Grumman S2T Turboprop plane

Two additional divisions in LNU are non-geographical but serve very important roles to the Unit. The Central Division is a multi-program division comprised of: Unit Safety, Fleet Management, & Training Bureau. These programs are tasked with but not limited to: Serious Accident Reviews, Injury Illness and Prevention Program (IIPP), Injury Assessment & Prevention System (IAPS), Target Solutions training application, Fleet Accountability, etc. The Pre-Fire Division is a multi-program division comprised: Vegetation Management Program, Pre-Fire Engineering, Unit Geographic Information System (GIS), Public Information Office, ,Public Education, Environmental Review, Fire Weather, Fuels Monitoring, Research, Grants, Burn Permits, Prescribe fire, Defensible Space, and Damage Inspection. The Pre-Fire Division programs are tasked with very important duties such as but not limited to: fuel reduction projects, prescribed burns, defensible space data entry collection, media, assessments to damaged or destroyed homes within a fires perimeter and pre- attack maps.

(See Appendix C: Fire Stations - Location - Resources)



Figure: 10 2020 Burn Operations

SECTION II: COMMUNICATION AND COLLABORATION

Though LNU is geographically divided into 4 divisions, inter-agency cooperation is essential. A wildfire does not conform to jurisdictional or divisional boundaries. A wildfire, regardless of size, can impact a wide variety of stakeholders. A stakeholder is any person, agency, or organization with an interest in fire safety and protection of assets from a wildland fire. In LNU this includes, but not limited to, fire protection professionals from paid and volunteer fire departments, active Volunteers-in-Prevention (VIP) personnel, air quality staff from five districts and citizen groups that all engage the issue of fire protection and prevention in their respective communities.

Community Stakeholders (Table 1)

Organization	Title
Angwin Fire Safe Council	Fire Safe Chair
Atlas Peak Fire Safe Council	Fire Safe Chair
Berryessa Highlands Fire Safe Council	Fire Safe Chair
Camp Meeker Fire Safe Council	Fire Safe Chair
Circle Oaks Fire Safe Council	Fire Safe Chair
COPE Northern Sonoma County FSC	Fire Safe Chair
Deer Park Fire Safe Council	Fire Safe Chair
Friends of the Mark West Watershed FSC	Fire Safe Chair
Kortum Canyon Road Fire Safe Council	Fire Safe Chair
Fire Safe Sonoma	Fire Safe Chair
Sonoma Mountain Fire Safe Council	Fire Safe Chair
Sea Ranch Fire Safe Council	Fire Safe Chair
Lake County Fire Safe Council	Fire Safe Chair
South Lake Fire Safe Council	Fire Safe Chair
Diamond Mountain Fire Safe Council	Fire Safe Chair
Gordon Valley Fire Safe Council	Fire Safe Chair
Diamond Mountain Fire Safe Council	Fire Safe Chair
Mt. Veeder/Dry Creek Fire Safe Council	Fire Safe Chair
Napa Communities Firewise Foundation	President
North Sonoma County Fire Protection District	Fire Chief
Soda Canyon Fire Safe Council	Fire Safe Chair
Silverado Fire Safe Council	Fire Safe Chair
Sonoma County RCD	Board Chairman

Napa County RCD	Board Chairman
Lake County RCD	Board Chairman
Yolo County RCD	Board Chairman
Colusa County RCD	Board Chairman
Solano County RCD	Board Chairman
American Canyon Fire Department	Fire Chief
Calistoga City Fire Department	Fire Chief
Cazadero Fire Protection District	Fire Chief
Cloverdale Fire Protection District	Fire Chief
Forestville Fire Protection District	Fire Chief
Geyserville Fire Protection District	Fire Chief
Gold Ridge Fire Protection District	Fire Chief
Graton Fire Protection District	Fire Chief
Healdsburg Fire Protection District	Fire Chief
Kenwood Fire Protection District	Fire Chief
Marin County Fire Department	Fire Chief
Napa City Fire Department	Fire Chief
Napa County Fire Department	Fire Chief
North Bay Fire Department	Fire Chief
North Sonoma County Fire Protection District	Fire Chief
Schell-Vista Fire Protection District	Fire Chief
Sonoma Valley Fire Protection District	Fire Chief
South Lake County Fire District	Fire Chief
St. Helena City Fire Department	Fire Chief
North Sonoma Coast Fire Protection District	Fire Chief

Napa County Airport	Airport Administrator
Yoche Dehe Fire Department	Fire Chief
BLM	BLM Representative
USFS	USFS Representative
Solano Fire Safe Council	Fire Safe Chair
Green Valley Fire Safe Council	Fire Safe Chair
Pleasants Valley Fire Safe Council	Fire Safe Chair

A. Communities

In other instances, long-established community groups are considered functionally equivalent to fire safe councils. Examples include the Hidden Valley Lake Homeowners Association in Lake County, the Berryessa Estate Homeowners Association, the Circle Oaks Homeowners Association in Napa County, the Fountain Grove Open Space Maintenance Association and the Fitch Mountain Neighborhood Association in Sonoma County. All groups have worked for years with local CAL FIRE representatives to implement community defense wildfire protection projects. Neighborhood and homeowner groups like these have been in existence for many years and have a long history of addressing common problems of local land use, development, watershed issues, and other local community environmental concerns. A common concern that arises in all these forums is the growing housing development in the Wildland Urban Interface. This additionally brings more topics of discussion such as the decreasing availability and affordability of homeowner's insurance in the area.

B. Agencies

Non-CAL FIRE government agencies also have a major stake in fire safety and protection of assets from LNU's wildland fires. At the federal level, LNU has built relationships with the Bureau of Land Management (BLM), United States Department of Agriculture (USDA), United States Forest Service's (USFS) Mendocino National Forest, and the U.S. Army Corps of Engineers on numerous pre-fire management projects. State agency relationships include the Department of Fish and Game, State Lands Commission, and the Department of Parks and Recreation. Additionally, there are many local government agencies and fire departments within LNU that are pertinent to the positive working relationship in CAL FIRE. The Unit collects data from all cooperating agencies to help evaluate and strategize the Unit's Fire Plan.



C. Fire Safe Councils

Other local stakeholders include public and private institutions, such as Pacific Union College, St. Helena Hospital and Health Center, and the California Veterans Home, all in Napa County; the Audubon Society in Yolo County; the Cal Pine Energy Corporation and the Northern California Power Agency, both geothermal energy producers in the Geysers area of Sonoma and Lake Counties; Pacific Gas & Electric, and numerous Resource Conservation Districts throughout the six counties. Unit staff have worked vigorously with all these institutions to implement pre-fire management projects of various types. Fire Safe Councils (FSC) are concerned citizens that have formed exclusively around the issue of fire. In LNU, such councils have been formed at various levels of community and governance. For example, Fire Safe Sonoma encompasses the entire County of Sonoma, while the South Lake Fire Safe Council encompasses a portion of southern Lake County. An even more refined example is the Mt. Veeder Fire Safe Council in Napa County. Their priority is on a specific community with its' own unique fire safety concerns, while working in coordination with the county-wide Napa Community Firewise Foundation.



D. Pre-Fire Planning

LNU engages with the community, local government, and other public and private stakeholders to address wildfire issues. CAL FIRE is typically involved in the development of Community Wildfire Protection Plans (CWPP) and pre-fire plans within all 6 counties both independently and in advisory roles. LNU supports Fire Safe programs as well as other fire prevention groups seeking assistance. As many residents of LNU can attest, wildfire can quickly threaten lives, property, community assets, and natural resources. There are preventive measures that can be taken to help protect communities from devastating losses. This can include “Pre-Attack Fire Plans” addressing communities at risk. Pre-Attack Fire Plans are localized disaster preplans. These plans come in the form of large, printed, foldout maps which are distributed to engine companies, fire stations and chief officers within the Unit. They can include a map of the area, location of hazards, communications, staging areas, evacuation concerns and contingency plans. Future pre-attack fire plans will include versions you can download or stream to a personal device.

On the northern Sonoma Coast, The Sea Ranch has its own fire management plan dating back to the 1980s, aimed at increasing community wildfire awareness and the implementation of a combination of fuel breaks and fuel reduction to protect assets at risk.

However, individual implementation of such measures can be prohibitive in terms of both cost and time, especially when neighboring stakeholders do not participate. In this respect, the Strategic Fire Plan and CWPP can be very empowering tools, providing communities with the opportunity to influence where and how fuel reduction projects are implemented. Communities with CWPPs in place are given priority for funding of hazardous fuel reduction projects.

Funding for projects can come from a variety of sources, be it federal, state, or local governments, concerned non-profit stakeholders, or even utilities like PG&E. Organizations such as local governments, FSCs or Resource Conservation Districts (RCD) regularly apply for grant funding on behalf of the community. This Fire Plan, in concert with allied stakeholder CWPP's creates the opportunities to address the wildfire problem across the Unit.

SECTION III: VALUES

A. LNU HISTORY OF LARGE FIRES

"Those who cannot remember the past are condemned to repeat it."

-Writer and philosopher George Santayana, 1905

This Fire Plan shows a map containing large fires in LNU since the year 2000 (see exhibit C). It includes the perimeters of the 2020 LNU Lightning Complex; 2020 Glass Fire; 2019 Kincade Fire; 2018s County Fire and Ranch Fire; 2017's Tubbs Fire, Atlas, Nuns, and Pocket; 2016 Clayton Fire and the 2015s; Valley Fire, Jerusalem Fire, Rocky Fire and the Wragg Fire. LNU has experienced some of the largest fires ever recorded in California's history. The information gathered from these historical fires can help understand the potential for a large fire at any location and help determine areas where pre-fire management action can be best used. LNU's fire history shows that this Unit has the potential to sustain large, devastating wildfires each year. Preparation and education can help lower the risks and loss for firefighters, civilians, evacuees, and benefit the public, and other agencies and stakeholders.

B. VALUES AT RISK

LNU has a wide range of both natural and man-made assets at risk to wildfires. Fires threaten the natural environment as well as commercial and residential property. Assets at risk include, citizen and firefighter safety, homes, infrastructure including water and power supply, rivers and watersheds, air quality, soil, wildlife and associated habitats, recreation areas including tourist attractions, scenic beauty, historical buildings, cultural unique areas, and timber holdings. The Unit Fire Plan considers these important values in hopes to limit the potential damage that could occur during a large fire.

1. Communities at Risk (Table 2)

Sonoma-Lake-Napa Unit Communities at Risk

PLACE NAME Y	COUNT	PLACE NAME	COUNTY
Arbuckle	Colusa	Agua Caliente	Sonoma
Colusa	Colusa	Annapolis	Sonoma
Lodoga	Colusa	Asti	Sonoma
Sites	Colusa	Bennett Valley	Sonoma
Stonyford	Colusa	Bloomfield	Sonoma
Century Ranch	Colusa		
Williams	Colusa	Bodega	Sonoma
Anderson Springs	Lake	Bodega Bay	Sonoma
Blue Lakes	Lake	Boyes Hot Springs	Sonoma
Clearlake	Lake	Camp Meeker	Sonoma
Clearlake Oaks (Stubbs)	Lake	Cazadero	Sonoma
Cobb	Lake	Cloverdale	Sonoma
Glenhaven	Lake	Cotati	Sonoma
Hidden Valley Lake	Lake	Duncans Mills	Sonoma
Kelseyville	Lake	El Verano	Sonoma
Lakeport	Lake	Eldridge	Sonoma
Loch Lomond (Adam Springs)	Lake	Forestville	Sonoma
Lower Lake	Lake	Geyserville	Sonoma
Lucerne	Lake	Glen Ellen	Sonoma
Middletown	Lake	Graton	Sonoma
Nice	Lake	Guerneville	Sonoma
The Geysers	Lake	Healdsburg	Sonoma
Upper Lake	Lake	Jenner	Sonoma
Witter Springs	Lake	Kenwood	Sonoma
American Canyon	Napa	Larkfield-Wikiup	Sonoma
Angwin (Pacific Union College)	Napa	Monte Rio	Sonoma
Berryessa Highlands	Napa	Oakmont	Sonoma
Calistoga	Napa	Occidental	Sonoma
Capell Valley	Napa	Petaluma	Sonoma
Circle Oaks	Napa	Rohnert Park	Sonoma
Deer Park (Sanitarium)	Napa	Roseland	Sonoma
Gordon Valley	Napa	Santa Rosa	Sonoma
Napa	Napa	Sonoma	Sonoma
Napa Soda Springs	Napa	South Santa Rosa	Sonoma
Pope Valley	Napa	Stewart Point Rancheria (Indian Res)	Sonoma
Saint Helena	Napa	Temelec	Sonoma
Spanish Flat	Napa	The Sea Ranch	Sonoma
Yountville	Napa	Timber Cove	Sonoma
Benicia	Solano	Two Rock Coast Guard Station	Sonoma
Fairfield	Solano	Valley Ford	Sonoma
Green Valley Estates	Solano	Windsor	Sonoma
Vacaville	Solano	Capay	Yolo

Vallejo	Solano		Esparto	Yolo
Big Valley Rancheria	Lake		Guinda	Yolo
Elem Indian Colony	Lake		Rumsey	Yolo
Middletown Rancheria	Lake		West Sacramento	Yolo
Robinson Rancheria	Lake		Winters	Yolo
Scotts Valley Rancheria	Lake		Yocha DeHe Rancheria	Yolo

2 Infrastructure

Critical infrastructure within the Unit has a high priority during a wildfire. This includes but not limited to; road access/egress, cellular towers, large voltage transmission towers, radio frequency towers, commercial buildings, water systems, historical structures and valuable political structures. Critical infrastructure, especially emergency radio and cellular towers are vital to protect from damage or destruction from wildfire. LNU prioritizes threats to critical infrastructure during wildfire incidents and commits time, resources, and personnel to maintaining defensible space around these valuable assets within the Unit.



Figure: 11, Geysers Geothermal Field

3 Environment

LNU has a variety of environmental values to protect such as but not limited to; watercourses, terrain, the variety of plants and animal species that are all essential to conserve and preserve for a sustainable and healthy environment. LNU utilizes VMP operations to maintain and sustain native species, clean and maintain healthy waterways, and lower the threat to devastating wildfire on mountainous terrain. Educating the public and understanding techniques to balance these environmental concerns using prescribe burning, manual and mechanical fuel reduction will have minimal negative impact to the environment but more so, a positive and helpful in impact in managing during a devastating wildfire. LNU state foresters are engaged in educating the public and evaluating the environment and natural resources and documenting these evaluations, efforts, and concerns via the Unit Fire Plan projects.

C. Fire Prevention

Fire prevention in LNU is a collaborative effort of all programs and personnel with one goal, to prevent unwanted fires. The Fire Prevention Bureau consist of Peace Officers who oversee fire investigation, and code enforcement. Pre-Fire Division including the Pre-Fire Engineer (PFE), Fire Prevention Specialists (FPS) and Defensible Space Inspectors (DSI) are analysts and educators. All other personnel and stations are contributors to fire prevention daily, such as: communicating with the public, or the education of children.

The State of California Fire Laws Handbook is used as the reference tool for enforcing regulations such as: Public Resource Codes. Enforcing these laws will benefit the safety of the public and firefighters during a wildfire.

1. Public Resources Code (PRC) 4290 and Title 14 Code of California Regulations

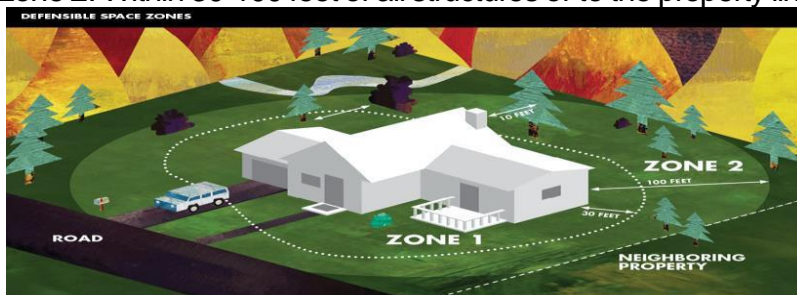
“These regulations have been prepared and adopted for the purpose of establishing minimum wildfire protection standards in conjunction with building, construction and development in SRA. These regulations became effective September 1, 1991. The future design and construction of structures, subdivisions, and developments in SRA shall provide for basic emergency access and perimeter wildfire protection measures. These measures provide for emergency access; signage and building numbering; private water supply reserves for emergency fire use; and vegetation modification.” *The intent statements that follow are a summary and are provided for information only. Specific requirements should be obtained from the local planning and building departments.*¹⁰

2. Public Resources Code (PRC) 4291

Property owners in mountainous areas, forest-covered lands or any land that is covered with flammable material must create at minimum a 100-foot defensible space (or to the property line) around their homes and other structures, as mandated by California PRC 4291.

The state legislature enacted PRC 4291 to improve fire safety and to help prevent catastrophic fires. Under the law, property owners or those who control a property must establish clearance zones such as:

- Zone 0: Within 0- 5 feet of all structures
- Zone 1: Within 5- 30 feet of all structures or to the property line
- Zone 2: Within 30-100 feet of all structures or to the property line



¹⁰ https://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?sectionNum=4290.&lawCode=PRC

This does not mean the property must be clear-cut to bare soil, it involves thinning and breaking up the continuity of ladder fuels and large areas filled with contiguous shrubs that can readily transmit fire.

California Public Resources Code 4290 and 4291 enforces the need to correct the errors of past residential and commercial developments. LNU Fire Prevention and Pre-Fire Division work daily on enforcement of structures using LE-100 forms to inspect, educate and develop positive working relationships within the communities.



In addition, as of July 1, 2021 SEC. 3. Section 1102.19 is added to the Civil Code, to read:

1102.19. (a) On and after July 1, 2021, a seller of a real property subject to this article that is located in a high or very high fire hazard severity zone, as identified by the Director of Forestry and Fire Protection pursuant to Section 51178 of the Government Code or Article 9 (commencing with Section 4201) of Chapter 1 of Part 2 of Division 4 of the Public Resources Code, shall provide to the buyer documentation stating that the property is in compliance with Section 4291 of the Public Resources Code or local vegetation management ordinances, as follows:(Commonly Referred to as “AB 38” property inspection)¹¹

- In a local jurisdiction that has enacted an ordinance requiring an owner of real property to obtain documentation that the property is in compliance with Section 4291 of the Public Resources Code or a local vegetation management ordinance, the seller shall provide the buyer with a copy of the documentation that complies with the requirements of that local ordinance and information on the local agency from which a copy of that documentation may be obtained.
- In a local jurisdiction that has not enacted an ordinance for an owner of real property to obtain documentation that a property is in compliance with Section 4291 of the Public Resources Code or a local vegetation management ordinance, and if a state or local agency, or other government entity, or other qualified nonprofit entity, provides an inspection with documentation for the jurisdiction in which the property is located, the seller shall provide the buyer with the

¹¹ [https://law.justia.com/codes/california/2019/code-civ/division-2/part-4/title-4/chapter-2/article-1-5/section-1102-19/#:~:text=\(1\)%20In%20a%20local%20jurisdiction,copy%20of%20the%20documentation%20that](https://law.justia.com/codes/california/2019/code-civ/division-2/part-4/title-4/chapter-2/article-1-5/section-1102-19/#:~:text=(1)%20In%20a%20local%20jurisdiction,copy%20of%20the%20documentation%20that)

documentation obtained in the six-month period preceding the date the seller enters into a transaction to sell that real property and provide information on the local agency from which a copy of that documentation may be obtained.

3. Engineering and Structure Ignitability

In the early 1980's, the California legislature adopted "Fire Safe" regulations in response to devastating fires on California's wildlands. California, because of its unique combination of vegetation, topography, climate, and population, has one of the most severe wildfire problems in the world. Rugged terrain and highly flammable vegetation make the foothills and mountains of California especially unsafe for residential development unless adequate fire safety measures are taken. A fire hazard severity classification system based on fire weather, fuel loading, and slope has been developed as a basis for identifying fire hazard in the State Responsibility Areas (SRA) where CAL FIRE has the primary responsibility for wildfire protection. To help aid in successful protection CAL FIRE plays an active role in the development of Fire Safe regulations. These regulations provide direction and set standards for construction of adequate ingress and egress routes, water systems, land use planning and zoning to help guide development within the SRA.

The intent of the Fire Safe program is to minimize the loss of lives, structures, and resources due to uncontrolled wildfires. The Fire Safe program places some of the responsibility of fire protection on the homeowner and/or builder/developer. The responsibility is the concept of defensible space planning and incorporating basic fire protection measures into the home or development as it is built. Each home, subdivision, and development constructed in the SRA should have adequate emergency equipment access, building, street, and address identification, and a reasonable water supply for suppression needs built into their designs. Residents and planners within the SRA should understand the importance of planning for fire protection, the need for ongoing and proper clearance of flammable vegetation around structures (PRC 4291), and the benefits of greenbelts, fuel breaks, and controlled burns in and around structures and developments.

4. California Code of Regulations Title 19 Public Safety

This title includes 4 divisions: State Fire Marshal, Office of Emergency Services, Seismic Safety Commission, and the California Underground Facilities Safe Excavation Board.¹² Valuable information pertaining to CAL FIRE and LNU includes but is not limited to:

- General Fire and Panic Safety Standards
- Fire Alarm Systems and Devices
- Fire Extinguishers and Automatic Fire Extinguishing Systems
- Fireworks and Explosives
- Transportation of Flammable Liquids
- California Fire Service and Education Program
- Emergencies and Major Disasters Programs and Procedures
- Hazardous Material Release Prevention, Reporting, Emergency Response

¹²[https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I58E18DF0D45111D EA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=\(sc.Default\)](https://govt.westlaw.com/calregs/Browse/Home/California/CaliforniaCodeofRegulations?guid=I58E18DF0D45111D EA95CA4428EC25FA0&originationContext=documenttoc&transitionType=Default&contextData=(sc.Default))

5. California Code of Regulations Title 24 Building Code Standards

The California Building Standard Commission which incorporates the California Fire Code, is adopted every three years by order of the California Legislature with supplements published in intervening years. Title 24 mandates specific requirements for new building construction placing strong emphasis on proper address signage, apparatus access, water requirements, building materials to be used and defensible space.¹³

LNU works with the county's Fire Marshals as well as the Sacramento State Fire Marshal to reinforce and educate the public and contractors while new construction mandates these requirements.

SECTION IV: PRE-FIRE MANAGEMENT PRIORITIES & TACTICS

Climate change has had a negative effect on California's wildfires. Fire "season" starts earlier, and ends later than historically (if it ends at all), fires are more frequent and more resistive to control, and large destructive fires are expected and no longer exceptional. Therefore, the LNU Fire Plan prioritizes projects that enhance life safety, reduce ignition and fire spread, and improve structure resilience over any projects that address tactical containment and control of wildfires.

A. LNU Project Priorities

- 1. Public arterial and collector road fuel reduction projects**
- 2. Supporting defensible space and home hardening effort**
- 3. WUI community fuel breaks**
- 4. Landscape level fuel reduction**
- 5. Emergency responder incident response planning and ingress progress**
- 6. Tactical ridgetop fuel breaks**

1. Public arterial and collector road fuel reduction projects

Fuel reduction efforts on established arterial and collector roads have two significant advantages during a severe wildfire event. Firstly, fires impacting roads with reduced fuel allow citizens to evacuate and responders to enter the fire area safely. Secondly, roads are often utilized as containment and control lines for wildfire. Fuel reduction along a given road before a fire occurs, allows responders to concentrate suppression efforts at the fire's forward advance. Thus, reducing the need to dedicate heavy resources to holding and reinforcing roadside fire edges.

Fuel reduction along Highways and Roadside right-of-way easements are proven inadequate to positively contain a fast-moving fire. Extending fuel reduction into private and public lands beyond a roadway easement is necessary for forming an effective fire break. Landowner and manager cooperation is critical for fuel reduction projects and establishing a reliable network of effective roadside fuel breaks.

¹³ <https://www.dgs.ca.gov/BSC/Codes>

The effective width of a roadside fuel break depends on percent of slope, dominant fuel type, and fuel load. Removing all vegetation is not necessary, nor desired, for an effective fuel break. For a starting estimate, a minimum of 100 horizontal feet of fuel thinning, measured from the road centerline, is desired to effectively blunt a fast-moving fire's impact on the road. Prescribed fuel break width will vary from location to location, based on local factors such as topography, fuel configuration, and land-owner cooperation. Since roadside fuel reduction contributes to life-safety and survivability in the wildfire environment, this is the Unit's top priority project concept.

2 Supporting defensible space and home hardening efforts

Fires are damaging and destroying more structures each year. Structures, once ignited in a wildfire environment, have shown to contribute to fire spread and spotting as much or more than natural fuel factors. When a fast-moving wildfire impacts multiple structures, often fire resources get diverted from wildfire perimeter control to defend structures and structure fire suppression. Home hardening efforts, where homes are constructed or remodeled with fire resistive materials and designs, will reduce a structure's vulnerability to wildfire, and limit potential spotting. Defensible space not only reduces a wildfire's impact to a structure; it also reduces the chance of an accidental fire inside/around a structure starting a new wildfire. Defensible space and home hardening efforts are one of the biggest ways an individual homeowner can help themselves and their community in wildfire-prone areas. There will never be enough firefighting resources to protect every structure in wildfire-prone areas. Projects supporting public education or cost-sharing through reimbursement are encouraged and considered a priority over lesser, competing efforts.

3 WUI community fuelbreaks

Structures in wildfire-prone areas are grouped into two general groups: Wildland Urban Interface and Wildland Urban Intermix. Wildland Urban Interface is defined as dense housing adjacent to vegetation that can burn in a wildfire. Wildland Urban Intermix is defined as housing development interspersed in an area dominated by wildland fuel. Where housing density increases in wildfire-prone areas, so does our concern to prioritize implementation of fuel breaks around their community borders. As described above with defensible space and home hardening efforts, a fuel break can reduce structure loss, reduce fire spread, and extend the opportunity for responders to enter the community and fire area with sufficient resources to be effective.

WUI community fire break design will vary from location to location according to fuel type, loading, and topography. A starting goal size of the fuel break or fuel reduction treatment area would be 4 times the height of the dominant fire-carrying fuel, increased where slope influences flame length negatively. Regardless of fuel type or slope, a minimum of 100 horizontal feet of treatment area width is desirable.

4 Landscape level fuel reduction

Prescribed fire can be good for people and the land. Removing fire from the landscape can cause ecosystems that need periodic fire to become unhealthy: trees are stressed by overcrowding, fire-dependent species disappear, and flammable fuels build up and become hazardous. CAL FIRE supports prescribed fires to benefit natural resources and protect

communities. Under some conditions it may be too difficult to safely use prescribed burning, be it proximity to communities, fuel type and loading, resource availability and fuel return interval. Mechanical treatment of hazardous fuels can then be a valuable tool.

Tools that are used to carry out the mechanical treatment of hazardous fuels range from, hand tools such as chainsaws and rakes, to large machines like bulldozers, masticators and woodchippers. Examples of mechanical treatment include the thinning of dense stands of trees, cutting and or piling brush, pruning lower branches of trees, or creating fuel breaks to encourage the right kind of fire. Often, mechanical fuels treatments are followed by prescribed fire to create effective hazard reduction.

Although landscape level fuel reduction is important, it is still just one available project-type of many that can positively affect wildfires. With a unit of LNU's size, dependent on the cooperation of multiple private landowners, respecting and analyzing a project's impact to the environment, CAL FIRE alone cannot accomplish broad-scope landscape fuel reduction necessary to affect the fire environment. LNU will support and encourage projects utilizing stakeholder cooperation to perform landscape level fuel reduction with fire or mechanical means. Additionally, LNU is supportive of projects that standup "Prescribed Burn Associations", which are non-profit, local grass-root organizations that can share resources, training and support for private landowners to safely and effectively conduct their own private fuel reduction on their lands, using fire or mechanical equipment.

5. Emergency responder incident response planning and ingress projects

Now that large, devastating fires in LNU are the norm rather than the exception, so are the regular influx of responders from outside the Unit who are unfamiliar with local factors influencing fire behavior and fire attack. Having a common firefighting plan, readily available to all incoming responders, in printed and online formats, is critical to the success and safety of a wildfire fight. Pre-Attack planning and mapping for all areas of LNU is possible, thanks to advances in GIS technology and mobile devices. Pre-Attack planning and mapping projects need to have a common format, template, and data structure, the ability for the field to easily verify, collect and submit data changes, and easily shared to end-users, from law enforcement, EMS, and Fireline responders to Incident Management Teams for situational and operational strategy and tactical awareness.

Ingress projects are considered those responder access projects that have been proven effective time and again on multiple wildfires. These are not arterial and collector roads, but rather little used or closed access routes which are advantageous or critical for fire resources to access and enter a wildfire area. Where possible and with minimal engineering and impact, projects where roads can be maintained, graded, widened, or constructed are supported. Any project worthy of an ingress project should also consider implementing fuel reduction, as in roadside fuel reduction efforts, for responder safety and containment/control line opportunities.

6. Tactical ridgetop fuelbreaks

Wildland fires, when propelled by remarkable wind events, can overrun any human-made fuel break, no matter what size. One needs to only look to the 2020 Glass Fire, which spotted across.

the Napa Valley north of St Helena, to understand that fuel break projects alone will not stop the advance of devastating fires. In this example, consider the Napa Valley where the Glass Fire jumped over; if this were an engineered, 1-mile-wide fuel break, using well-cultivated vineyards free of combustible vegetation, bordered by a pair of two-lane paved roads, it is proof that fuel break projects are not a singular solution.

Tactical ridgetop fuel breaks are of value, where past fire lines (specifically dozer lines), have proven repeatedly effective in containing and controlling fires. LNU has identified several “dozer lines” that have been put in repeatedly during emergency situations that proved effective in containing and controlling large fires. Whereas CEQA rules do not apply to firefighting operations during an emergency event, allowing us to construct roads and dozers lines as determined necessary, the environment is still adversely affected, and CAL FIRE spends time and money performing “suppression repair” on private and public lands after the fire, to minimize longer-term environmental impacts and damage after the fire has been extinguished.

If a previous dozer line has proven effective in a fire-prone area with fire history, or a logical ridgetop where no significant fire history, CAL FIRE would construct dozer lines and firebreaks in an emergency. LNU supports implementing tactical ridgetop fuel break projects that can comply with CEQA rules. Establishing and maintaining effective tactical fuel breaks will allow responders to deploy resources, which normally would be heavily committed to dozer line construction, elsewhere on the fire ground.

Project consideration: Maintenance and Sustainability

Any proposed project, no matter how immediately advantageous and effective, must include a long-term maintenance plan for the Unit to support it. Maintaining a project includes, and is not limited to, having approved plans in place to sustain the project with fiscal, labor, planning and equipment commitments, in perpetuity. Too many projects have fallen into ineffectiveness because of minimal support or no support beyond the initial implementation. Any project proposed to the Unit will need to address this in detail, to garner direct or indirect support. Any project proposed to LNU that does not address sustainability as described above will garner our objection to it.

B. Program Effectiveness

This section will explain the ongoing development and technological advancements in LNU programs and how each assist in cooperation of fire suppression. Each year LNU updates programs, trainings, curriculums, and tech services to accommodate our personnel and improve resources and suppression efforts in support the Unit Fire Plan. Here you will see a breakdown of each program and its future in the department.

1. Emergency Command Center

St. Helena ECC has developed new, and improved multiple programs to manage and support the Unit’s Strategic Fire Plan such as:

- Multiple Incident Management Plan - which organizes multiple incidents at one time. This would include lightning seriesfires.

- The new IROC system has been implemented as of March 2020 and is a national resource tracking system. IROC took the place of the old ROSS system, and its update enhances the organization of all resources nationwide from aircraft to single resource identifiers.
- St. Helena ECC is now running as an Emergency Medical Dispatch system (EMD). This is pre-arrival instructions to 911 callers on directions to give help before emergency professionals arrive at scene.
- Rapid Deployment Location Accuracy Program is currently up and running in the ECC and allows 911 calls from cellular devices to be better traced to specific locations by cell phone GPS.
- Automatic Vehicle Location (AVL) have been installed in state resources such as engines, transports, crew carrying vehicles and pickups to allow for better dynamic dispatching efforts based on closest resource. The AVL also allows for “real time” update to better allow for accountability efforts and show other resources responding in real time.
- Utilize a new advance Technosylva program to take live data and resources to analysis fire behavior and help make predictions for fire planning purposes.

2. Fire Prevention Program

The Fire Prevention Programs of LNU, which include Law Enforcement, attempt to address actual problems encountered and plan for anticipated changes. Unit prevention efforts include fair exhibits, Public Resource Code (PRC) 4290 burn permit procedures, fire patrols, news media releases, public service announcements and outreach, school programs, structure and yard premises inspections, and membership in various FSC's. Fire prevention efforts within the Unit are coordinated with Local Fire Departments for continued success.

The Fire Prevention Bureau is involved in the broad spectrum of fire prevention activities in and outside of the Unit. The Fire Prevention Bureau in conjunction with VIP's, participate in more than 2,000 hours of public education activities, contacting more than 41,500 people annually. The Fire Prevention Bureau has taken an active role in the support of local FSC's, partnering with them to standardize our defensible space and fire safety messages.

The Fire Prevention Bureau is active in their law enforcement of illegal burning and take the central role in the civil cost recovery of incidents within the Unit. The Fire Prevention Bureau supports all fire investigation needs of the Unit, assisting with complex investigations such as those involving fire fatalities, commercial structures, arson, or detailed follow-up investigative work. Through the fire investigation process, specific fire causes can be identified and will be addressed utilizing focused prevention efforts of education and enforcement programs. To help educate the public the Fire Prevention Bureau developed brochures and public service announcements (PSA) detailing the hazards associated and mitigation efforts.

3. Information and Education

The Public Information Officers (PIO) take the lead on education and fire related messages to the public. PIO's focus on providing information and education to people of all ages, in public forums, through the media, and displaying and distributing educational material. Through LNU's Ignition Management Program, high target areas have been identified for specific outreach campaigns.

These campaigns may include increased publicity through the media, social media, local channels, school programs, fairs and other public events.

4. School Programs

LNU personnel, primarily engine companies, participate in school programs throughout the year to provide fire prevention, life safety, and natural resource protection education. It is our goal to target schools that have been identified in areas with high Playing with Fire (PWF) incidents in the Unit's Ignition Management Plan.

5. Juvenile Fire setter Intervention Program

Juveniles identified as playing with fire or intentionally starting a fire are referred to LNU's Juvenile Fire setter Intervention Program. The goal of the program is to reduce the number of fires started by juveniles within the communities we serve. The program is designed to assist parents and their children in understanding the dangers of playing with fire, how to prevent repeat incidents and other consequences of fire setting behavior.

6. Fairs and Public Events

Fairs and other public events continue to be an effective method of conveying fire prevention messages to the public. LNU personnel and VIP participate in events like, the Sonoma County Fair in Santa Rosa, Steelhead Festival in Healdsburg and the Travis Airshow in Solano County and the Lake County Fair in Lakeport. Often, we choose one fire prevention message to highlight each year and promote such message using our CAL FIRE mascot "CAPTAINCAL."

7. Fire Information Center

The LNU Fire Information Center is activated for incidents that generate public interest. VIP's staff the phones and give incident information to residents and the media. The VIPs are trained to provide safety messages and education when appropriate. This helps take the workload off the ECC and allows them to manage resources, while public & media questions can be answered by VIP's.

8. Media Outreach

LNU distributes many news releases and informational messages through the media via social and traditional print and television media platforms each year. These messages range from responsible equipment use, burn permits, current prescribed fire and training burns, changes in equipment use regulations, holiday safety, the opening of fire season and any other topics that may be relevant to the population served by CAL FIRE.

9. Printed Materials

Printed educational materials are available to the public at every facility and online. Defensible Space Inspectors are composed of four teams of two personnel, that distribute printed materials during inspections and emphasize their importance. We encourage staff to hand out pertinent materials when interacting with the public.

10. Training Bureau

The LNU Training Bureau administers training for all personnel in LNU to comply with all federal, state, and local training requirements. The Training Bureau coordinates both Unit and Region trainings, as well as the California Joint Apprentice Committee (JAC) program. The Training Bureau monitors employee's DMV records and facilitates State Fire Marshal certifications classes. They organize and cooperate weekly training topics with all agencies, colleges and neighboring departments all while managing the Target Solutions Program that documents all training records for personnel accountability.

11. Conservation Camp Programs

Delta and Konocti Conservation Camps are actively involved in several Fire Plan fuels reduction projects within the Unit. When not assigned to emergency response, these crews conduct labor-intensive work on critical hazard fuel reduction projects in support of the Fire Plan.

Delta Camp works on fuels reduction projects in neighboring communities and the Santa Clara Unit (East Bay Regional Parks, with multiple locations of shaded fuel breaks). Thanks to the dramatic increase in the number of proposed fuel reduction projects, the demand for fire crews has increased and has spotlighted the need for additional fire crews in LNU.

Konocti and Delta Camps perform fuel reduction work in limited areas of Sonoma County, typically the eastern areas of the county. The burden of conservation camp work fell to these camps when in January 2021 Chamberlin Creek Camp closed down inmate crews and Black Mountain Conservation Camp, located near Cazadero, CA, closed in 1992. All SRA areas west of Highway 101 are at least 1 hour, 30 minutes from any CAL FIRE camp.



Figure 10 Crew Readiness Exercise

LNU is in support of an additional Conservation Camp, however our counterparts to that, the CDCR have struggled to support current crews due to limited supply of inmates. Inmate fire crews, while at the peak of fire season, have suffered in availability due to the decreased number of inmates to staff a full crew of 17. Most LNU inmate crews function at a decrease with a 10-15 person crews. This is due to the California laws passed in 2016 with Proposition 57 which allowed non-violent offenders a reduced sentence time. Year 2020 and 2021 has also been,

difficult for crew availability due to the COVID-19 pandemic. COVID-19 has permitted fire crew emergency depopulation precautions, allowing inmates an earlier release date than originally sentenced. This has reduced the number of crews statewide.

12. LNU Fuels Reduction Crew

LNU's Fuels crews staffing model is 1 Fire Captain, 1 Forestry Assistant II, 1 Fire Apparatus Engineer, 1 Equipment Operator II, and nine Forestry Technicians. Fuels Crews consist of firefighters who are looking to diversify their experience and some newly hired personnel looking to enter the department.

The Fire Captain is the crew supervisor and in charge of the daily management of the Fuels Crew. The Forestry Assistant II is responsible for project layout and environmental compliance. The Fire Apparatus Engineer will be the acting crew supervisor when the Captain is absent. The Equipment Operator II is responsible for operation and maintenance of the heavy equipment and chippers assigned to each crew. Forestry Technicians do the actual fuels reduction operations, and are responsible for all tool maintenance, facility maintenance, and operate support vehicles to support fuels reduction projects.

Having a dedicated resource, focused solely on fuel reduction, aids LNU in being successful at reducing hazardous fuels and improving life safety for the citizens of LNU. It is essential for all communities to work together to mitigate hazardous fuels however, the state-wide Fuels Crew resources are an additional tool for the management of fuel reduction to the state of California.

13. LNU Firefighter Handcrew

LNU will staff a fully equipped firefighter handcrew for 2021 fire season. This has been funded through the release of the state Governor's Emergency Fund authorization to support the Wildfire and Forest Resilience Action Plan.¹⁴ The firefighting handcrew will include 1 Battalion Chief, 3 Fire Captains, 1 Training Fire Captain, 3 Fire Apparatus Engineers, 40 total Firefighters and 4 Kitchen Staff. They will be status as an ICS Type I crew with a daily minimum staffing of 2 Supervisors and 13 Firefighters and will be named the "Hood Mountain Crew". While not assigned to an incident, the Hood Mountain Crew will be assisting with fuel reduction projects and training. Hood Mountain Crew is located at Hood Mountain Fire Center east of Santa Rosa. In the Kenwood Area.

14. Air Program

Sonoma Air Attack Base (SAAB) in the last 5 years has loaded over 1 million gallons of retardant each year. SAAB is the only North Coast Base that can load Large Air Tankers (LATS) such as C-130's, P3's, BAE 146. etc. SAAB can fill Very Large Air Tankers (VLATS). The base has been undergoing a new concrete project to help with additional loading of the fire retardant for faster production.

Boggs Mtn. Helitack has been heavily involved with the development of the new CAL FIRE HAWK firefighting helicopter. The program has many new adjustments associated with the aircraft that arrived in 2021 and personnel are working to build the safety factors and capabilities of the S70i aircraft. The new C-104 capabilities will include larger allowable load, a dual engine aircraft, more personnel, fixed hoist mechanism, night vision capabilities, and a fixed mounted belly tank (1000 gallon).

¹⁴ http://cert1.mail-west.com/hmc7rm2Nyj2A/12Ngtmyuzja/t788/26kf/N7qjybe/12Nqvnq2/unkibq1m88/wvoioa?_c=d%7Cze7pzanwmhlzgt%7C188ae1dovxahbij&_ce=1620156184.00760b3ce3857425649003fa53bbc8eb

15. Vegetation Management Program (VMP)

The VMP is a program that utilizes prescribed fire, and mechanical means, for addressing wildland fire fuel hazards and other resource management issues on SRA lands. The use of prescribed fire models, natural processes, restores fire to its historic role in wildland ecosystems, and provides significant fire hazard reduction benefits that enhance public and firefighter safety. The VMP allows private landowners to enter a contract with CAL FIRE to use prescribed fire to accomplish a combination of fire protection and resource management goals. The projects which fit within LNU's priority areas (e.g., those identified through the Fire Plan) and are of most value to the Unit are those that have been completed initially and continue to be active over the years.

The Unit Pre-Fire Engineer (PFE) works with county planners and CAL FIRE Region staff. The PFE priorities are fuel treatments & data collection, improve public access and egress on roads, provide strategic fuel breaks near communities, treat at the landscape level (ridge lines and prescribed fire), Unit Fire Plan, LE-100 Defensible Space Inspections, local wildfire predictive services and GIS. The PFE works with all resources from LNU to support the Fire Plan.

CalMAPPER is a statewide program, developed to collect data from all 21 units, organizes and accounts for planned, completed, active projects and documents burned acres, treated acres within each unit. This information has been used to educate and inform the public with reporting of ongoing statewide projects and assist with planning efforts with stakeholders and cooperators.

(See Supplement: 2021)

16. Vegetation Treatment Program (CALVTP)

The CALVTP program was established and passed by legislature in 2008 as a streamlined process under the California Environmental Quality Act (CEQA) to help expedite implementation of vegetation treatments to address wildfire risk in California¹⁵. The CALVTP focuses on the fuel treatments on public and private land across the state as one component of the state's efforts to reduce the risk of loss of lives and property, reduce fire suppression costs, and protect natural resources from wildfire. CALVTP provides a toolbox of treatment types and treatment activities from which project proponents can select to design individual treatment. This is beneficial to LNU and the Unit Fire Plan because it allows additional options for fuel treatment types in pre-determined area of the state. With limited personnel and a surplus of Unit fuel reduction projects, the CALVTP programs helps grant additional options for safe, effective and efficient ways of accomplishing these projects.

The California Environmental Quality Act (CEQA) requires public agencies to consider actions on projects that may directly or indirectly result in a physical change in the environment. When CAL FIRE funds, approves, permits, facilitates, or carries out a project as lead agency, it is obligated to ensure that the appropriate steps are taken in complying with CEQA by preparing an

¹⁵ <https://nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=184828&inline>

environmental review. The review, conducted by the Unit Forester/Environmental Coordinator, ensures that CAL FIRE's statutory responsibilities within LNU are addressed in the project planning phase. Examples of CAL FIRE projects in LNU include facility construction, repairs, maintenance, and fire hazard clearance. Fuel reduction projects include shaded fuel breaks, prescribed burns, and live fire training burns.

17. Resource Management Program

The CAL FIRE mission emphasizes management and protection of California's natural resources. Management of overstocked timber stands is necessary to achieve the goals of restoring, enhancing and protecting California's natural resources. Healthy forests are more productive, are more resistant to diseases that weaken trees or cause mortality, and generally are at lower risk to catastrophic wildfire. Restoring rangeland through prescribed burning of non-native noxious weeds, forbs and grasses promotes increased range health, which has environmental and socio-economic benefits.

Unique to LNU, there are two State Forests managed by the Department on behalf of the public. Boggs Mountain Demonstration State Forest (BMDSF) is a 3,493-acre mixed conifer forest located in Lake County and Las Posadas Demonstration State Forest (LPDSF) is a 796-acre mixed conifer forest located in Napa County, which also incorporates the furthest inland natural stand of redwood trees in California.

State Forests are working landscapes that are mandated to conduct research, demonstration, and education on sustainable forestry practices using active forest management, including periodic timber harvests. Management of the State Forests is required to protect values relating to recreation, watershed, wildlife, range and forage, fisheries, and aesthetic enjoyment. The concept of forest sustainability includes the restoration and protection of forest ecosystems, both terrestrial and aquatic. Important issues include stewardship of managed forestlands to restore and maintain biodiversity and ecosystem functions thereby providing healthy forest and rangelands. Timber harvesting also significantly reduces the amount of fuel continuity on the State Forests through the removal of dead, dying and diseased trees providing shaded fuel breaks, burning slash debris, and restoring road systems to enable better egress and ingress for fire equipment and personnel.

The objectives of such forest management practices include enhanced protection from wildfire impacts on the forestland resource and the developed interface lands of the rural residential communities adjacent to and near State Forest property. These objectives are accomplished through the reduction of flashy fuels, fuel accumulations, and fuel ladders that enable crown fires. The prescribed burning that occurs on the State Forests reduce ground fuels, reduce overgrown brush, and thin the understory to reduce vertical and horizontal continuity of fuels while protecting over story conifers and hardwoods. The benefits of these low intensity fires include reducing the accumulation of hazardous fuels, enhancing wildlife habitat, control forest disease, provide new growth, and reducing the potential for catastrophic wildfires.

BMDSF has previously been managed as a working forest that facilitates research and demonstrates diverse timber management practices to private timberland owners and the public at large. Another long-term objective is to once again have BMDSF provide for healthy

sustainable ecosystems as well as become a financially viable timber management program. The Forest is managed over the long term for a dynamic mosaic of diverse habitats and high-volume inventory.

LPDSF also provides for demonstration and research activities; however, it is unique in the State Forest Program because merchantable timber harvesting is not allowed under the deed restriction and the Forest is not open to the public at large. Because of its diversity of terrain and ecosystem characteristics, the Forest provides for interesting research projects. LPDSF also provides a secondary egress for the community of Angwin residents into Pope Valley.

18. Fire Suppression Repair

CAL FIRE has authority to conduct fire suppression repair operations during emergency incidents on SRA under the PRC Sections 4675 & 4676. Fire suppression damage includes impacts to resources and property caused by firefighting efforts, including but not limited to potential soil erosion from dozer & hand lines, road opening and watercourse crossings. The primary objective is to mitigate fire suppression-caused damage to as close to pre-fire conditions as is reasonably possible. This is done by minimizing sediment delivery to watercourses, mitigating slope conditions to pre-fire drainage patterns, removing fire suppression-related debris, restoring or removing berms and barriers as necessary, repairing gates and fence lines removed for fire control access, and implementing appropriate mitigation measures (in consultation with a CAL FIRE archaeologist) to protect cultural and/or historic resource sites.

The Resource Management staff provides suppression repair duties in the Unit. Their natural resource background, training and knowledge of both fire control issues and methods of addressing complex environmental issues greatly support the Department's Strategic Plan. They work with the landowners and other stakeholders to provide a rapid post-fire assessment of burned areas. They have many private and agency contacts, and effectively utilize available resources, including CAL FIRE hand crews, to accomplish the restoration and protection activities.

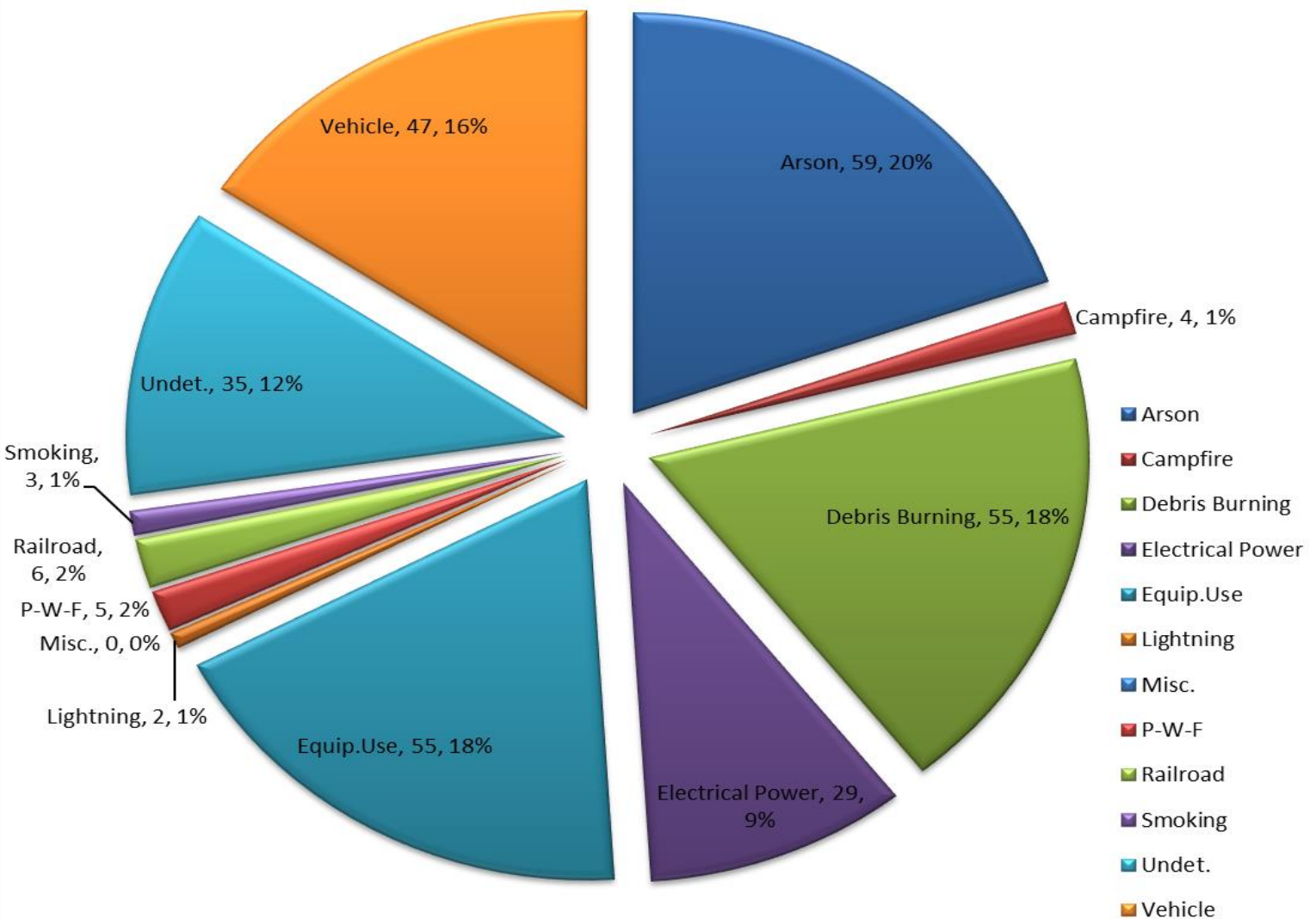
SECTION V: IGNITION MANAGEMENT PLAN:

A. IGNITIONS AND INITIAL ATTACK SUCCESSES

Historically, one of the largest ignition cause in the LNU has been the use of equipment, followed by powerlines. Most ignitions are associated with roads and areas of high population density. Identifying ignition causes is an ongoing challenge and may result in fire causes being undetermined. Coordinated efforts with ground and air suppression resources help to aid in the investigation of fires. LNU resources and local fire personnel communicate in unified command to support each other with firefighting strategies and tactics to keep all fires 10 acres or less. The need for accurate and thorough investigations is a priority for LNU and is critical to the Unit's fire history and data entry.

2022 Statistics
1. 2022 Fire Cause Percentage

2022 Total Fires by Cause: LNU

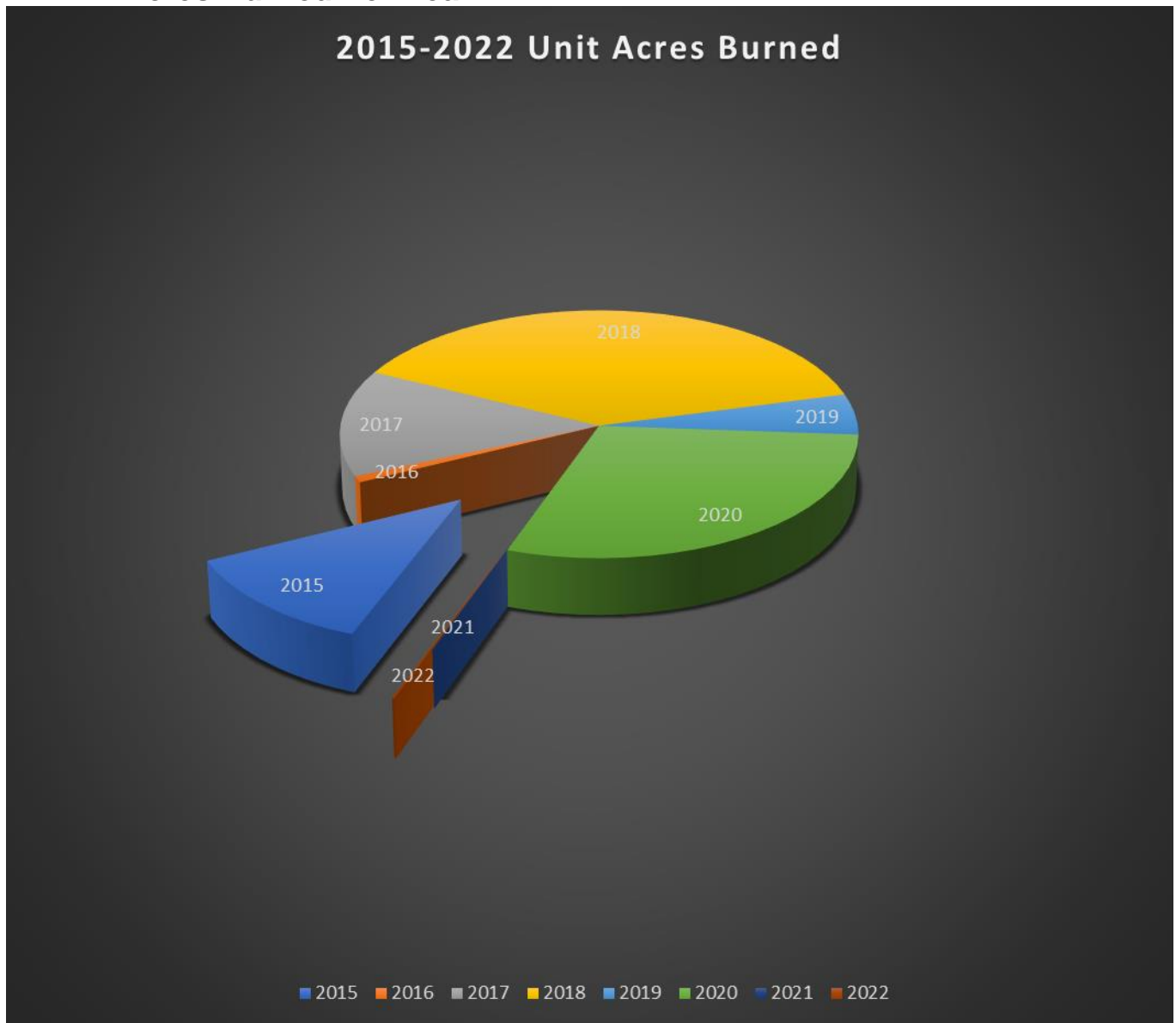


Summary:

According to 2022 CALFIRS records, LNU had a total of 300 wildland fire starts, that initiated fire reports. This pie graph above shows the cause classification of which the fires started. Of the known fire causes, you can see that Arson and Vehicles are the leading causes to LNU fires in 2022.

Acres Per Last 8 Years

1. Acres Burned Per Year



Summary:

2015: 179,552, includes incidents: Wragg, Rocky, Jerusalem, and Valley

2016: 11,937, includes incidents: Clayton and Sawmill

2017: 205,898, includes incidents: Sulphur, Atlas, Nuns, Tubbs, 37, and Pocket

2018: 570,221, includes incidents: Pawnee, Snell, County, Ranch, River, Branscombe, and Eighty Eight

2019: 78,519, includes incidents: American, Marshview, Kincade, and Sand

2020: 433,740, includes incidents: August Complex, Glass, LNU Lightning Complex, and Quail

2021: 711, includes incidents: Newell (132 acres, largest of 2021)

2022: 1,638, includes incidents: Old (570 acres, largest of 2022)

Note: Total acres burned sometimes is across multiple Units and DPA...

Appendix A: UNIT GOALS AND OBJECTIVES

The overall goal of LNU's Fire Plan is to reduce total costs and losses from wildland fires within the Unit by protecting assets at risk through focused pre-fire management prescriptions and increased initial attack success. To make the Unit Fire Plan a success, it must focus on the goals outlined in the Strategic Fire Plan for California, which include:

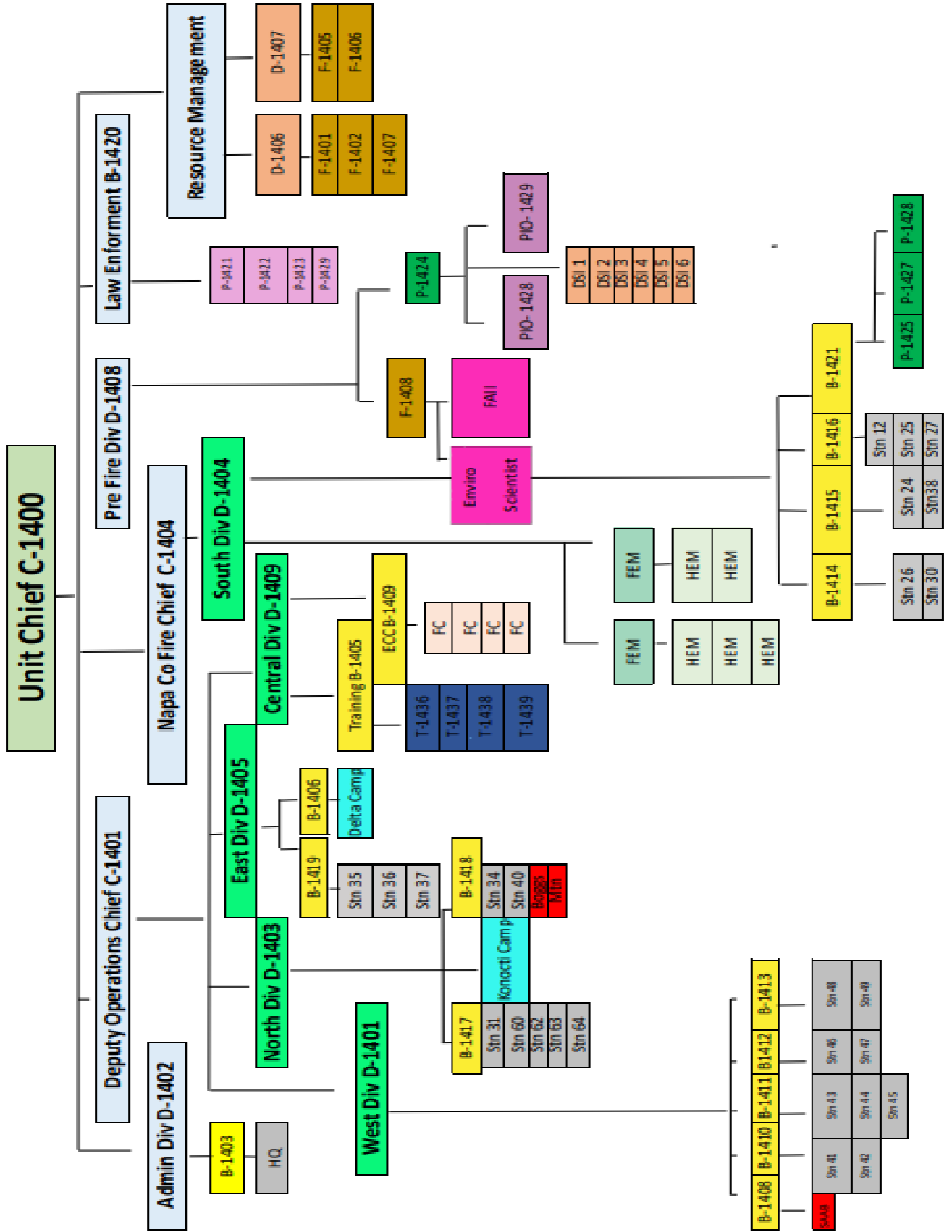
- Identify and evaluate wildland fire hazards and recognize life, property, natural resource assets at risk, including watershed, habitat, social and other values of functioning ecosystems. Facilitate the collaborative development and sharing of all analyses and data collection across all ownerships for consistency in type and kind.
- Promote and support local land use planning processes as they relate to: (a) protection of life, property, and natural resources from risks associated with wildland fire, and (b) individual landowner objectives and responsibilities.
- Support and participate in the collaborative development and implementation of local, county and regional plans that address fire protection and landowner objectives.
- Increase fire prevention awareness, knowledge and actions implemented by individuals and communities to reduce human loss, property damage and impacts to natural resources from wildland fires.
- Integrate fire and fuels management practices with landowner/land manager priorities across jurisdictions.
- Determine the level of resources necessary to effectively identify, plan and implement fire prevention using adaptive management strategies.
- Determine the level of fire suppression resources necessary to protect the values and assets at risk identified during planning processes.
- Implement post-fire assessments and programs for the protection of life, property, and natural resource recovery.

Before and during implementation of any pre-fire management activity, stakeholders' input is sought to:

- Acquaint stakeholders with the process
- Bring their expertise and knowledge to bear on assets-at-risk
- Review the levels of service in these locations
- Identify areas where the stakeholders consider levels of risk unacceptable
- Identify other beneficial results of various fuel management activities

Appendix B: UNIT MATRIX

Sonoma Lake Napa Unit Organizational Chart



Appendix C: FIRE STATIONS - LOCATION - RESOURCES

West Division (Sonoma County)

Battalion 08

Sonoma Air Tanker Base

- AA140
- T85, T86

Battalion 10

Santa Rosa Station 41

- E1470, E1480

Occidental Station 42

- E1460

Battalion 11

Hilton Station 43

- E1471, E1481

The Sea Ranch 44 (schedule A/B)

- E4471, E1451

Cazadero 45

- E1461

Battalion 12

Glen Ellen Station 46

- E1462, E1482
- D1442

Petaluma Station 47

- E1472

Battalion 13

Healdsburg Station 48

- E1453, E1463,
- D1443

Cloverdale Station 49

- E1473, E1483

Hood Mountain Fire Center

- Hood Mtn Crew 1 & 2

South Division (Napa County)

Battalion 14

St. Helena Station 26 (schedule A/B)

- E26, E1464, E1484

Las Posadas Station 30

- E1474

Battalion 15

Spanish Flat Station 24

- E1465, E1475

Gordon Valley Station 38

- E1485
- D1445

Battalion 16

Yountville Station 12 (A)

- E12
- TRK12

Napa Station 25 (schedule A/B)

- E25, E1466

Greenwood Ranch 27 (schedule A/B)

- E27, E1476
- HZM27

North Division (Lake County)

Battalion 17

Middletown Station 31

- E1477, E1487
- D1447

Cobb Station 62 (schedule A)

- E6221
- M6211
- WT-6221

Hidden Valley Station 63 (schedule A)

- E6321
- M6311
- WT6011

Battalion 18

Kelsey-Cobb Station 34

- E1458, E1468

Clearlake Oaks Station 40

- E1478, E1488
- D1448

Boggs Mountain Helitack Base

- C104

East Division (Colusa, Solano, and Yolo Counties)

Battalion 19

Leesville Station 35

- E1469

Wilbur Springs Station 36

- E1479

Brooks Station 37

- E1489

CDCR Conservation Camps

Delta Camp (Solano County)

- Delta Crews 1 through 4

Konocti Camp (Lake County)

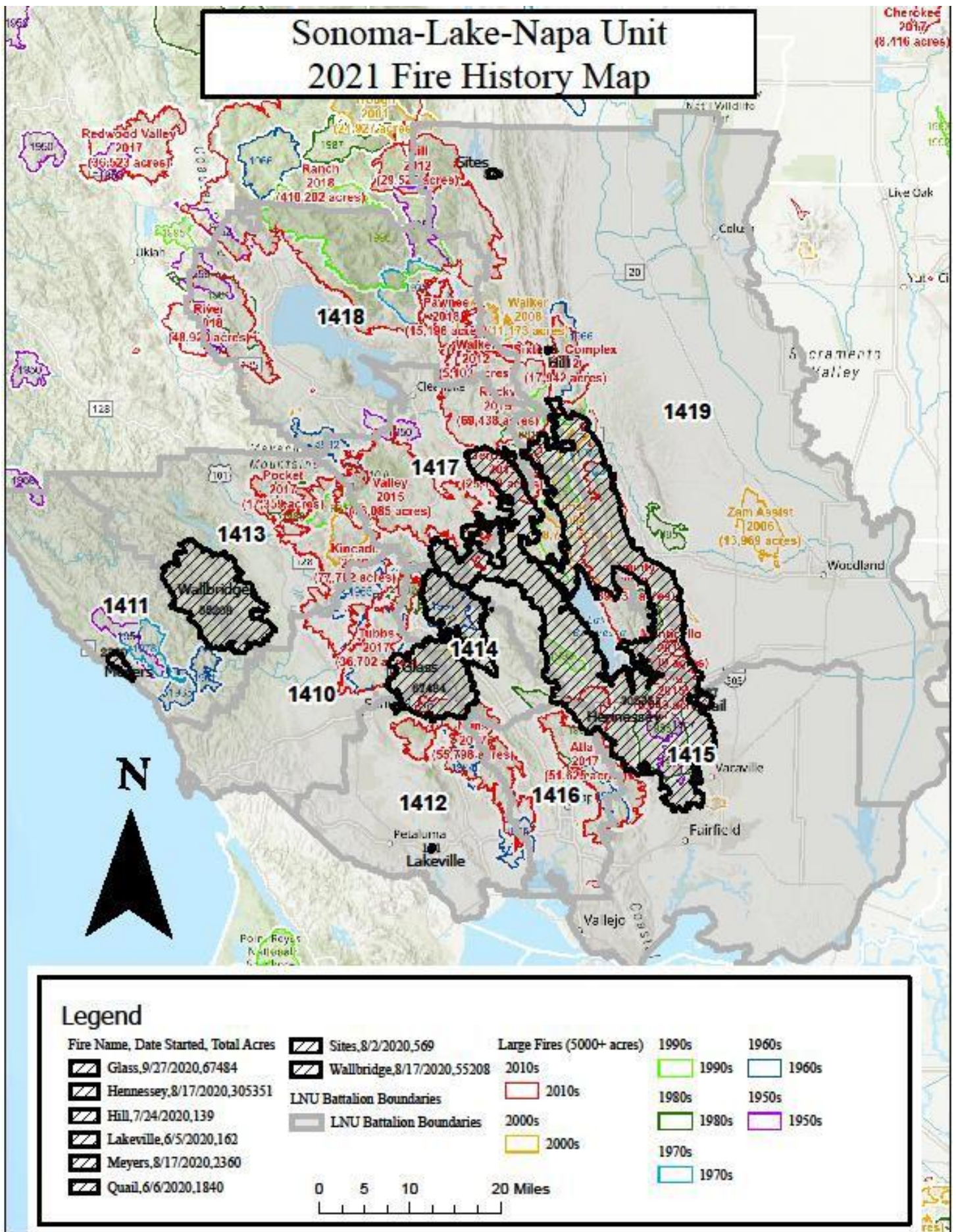
- Konocti Crews 1 through 4

In summary (Schedule B only):

- (1) Air Tactical Aircraft – OV-10 Bronco
- (2) Air Tankers – S-2FAT Turbo Trackers
- (1) Copter - UH-1H Super Huey helicopter
-New S70i Firehawk due in-service fire season 2021
- (31) Engines – ICS Type 3, 4x4
- (6) Dozers – Caterpillar D6 or equivalent
- (7) Fire Crews – ICS Type 1

Exhibit A: FACILITIES MAP





Glossary

Battalion - A battalion consists of several fire stations and multiple fire companies. A battalion chief has command over each fire station's officers and each company or unit's officers, as well as the uniformed firefighters.

Built Environment - Human-made surroundings that provide the setting for human activity, ranging in scale from buildings to parks, including the human-made space in which people live, work, and recreate on a day-to-day basis.

California Environmental Quality Act (CEQA)- requires state and local agencies within California to follow a protocol of analysis and public disclosure of environmental impacts of proposed projects and, in a departure from NEPA, adopt all feasible measures to mitigate those impacts. ([california environmental quality act - wikipedia](#))

Climate Change – Any long-term significant change in the “average weather” that a given region experiences. Average weather may include average temperature, precipitation, and wind patterns. (<http://frap.cdf.ca.gov/assessment2010/definitions.html>)

Community Wildfire Protection Plan (CWPP) – A community-based collaborative plan developed by local stakeholders that identifies and prioritizes areas for hazardous fuel reduction treatments to protect communities and infrastructure from wildfire. Stakeholders, applicable local government, local fire departments, state forestry, and federal land management agencies agree to the plans.

Cooperative Fire Protection Agreements – Agreements established between federal, state, tribal and local government entities to provide long-term fire and emergency service protection. These agreements include the California Fire Management Agreement (CFMA) and the California Fire Assistance Agreement (CFAA). CFMA: <https://gacc.nifc.gov/oscc/cwgc/cfma.php>
CFAA: http://www.caloes.ca.gov/FireRescueSite/Documents/CalOES-2015_CFAA_Agreement_with%20Signatures.pdf

Defensible Space – The area within the perimeter of a parcel, development, neighborhood, or community where basic wildland fire protection practices and measures are implemented, providing the key point of defense from an approaching wildfire or defense against encroaching wildfires or escaping structure fires. (http://cdfdata.fire.ca.gov/fire_er/fpp_engineering_view?guide_id=8)

Direct Protection Areas (DPA) - Intermingled and adjacent lands delineated by boundaries regardless of jurisdictional agency. Wildfire protection in these areas are negotiated, created and agreed to by the administrative units of either the Federal Agencies or the State.

Division - The organizational level having responsibility for operations within a defined geographic area.

([ICS Organizational Structure and Elements \(fema.gov\)](#))

Effectiveness Monitoring Committee – This Board-appointed committee is responsible for supporting, through review and funding, research and monitoring efforts to evaluate the effectiveness of the Forest Practice Rules and associated regulations in maintaining and enhancing water quality and aquatic and terrestrial wildlife habitats.

(http://bofdata.fire.ca.gov/board_committees/effectiveness_monitoring_committee_/)

Fire Hazard – A fuel complex, defined by volume, type condition, arrangement, and location, that determines the degree of ease of ignition and of resistance to control.

(<http://www.nwgc.gov/pms/pubs/glossary>)

Fire MOU - Memorandum of Understanding for the Purpose of Increasing the Use of Fire to Meet Ecological and Other Management Objectives, Forest Service Agreement No. 16-MU-11052012-148.

Fire Prevention – Activities such as public education, community outreach, building code enforcement, engineering (construction standards), and reduction of fuel hazard that is intended to reduce the incidence of unwanted human-caused wildfires and the risks they pose to life, property, or resources. (<http://www.nwcg.gov/pms/pubs/glossary>)

Fire Protection - The study and practice of mitigating the unwanted effects of potentially destructive fires.

Fire Resilient – The ability of a vegetation type, ecosystem, or community to respond positively to or recover quickly from the effects of a wildfire burning within, across or adjacent to them.

Fire Resistant – The condition of an asset that resists ignition and damage from wildfire. Structures are built using ignition resistant materials such as stucco, tile roofs, and boxed eaves with the likelihood that they will withstand most wildland fires or at least reduce damage caused by them.

Fire Risk – The chance of fire starting, as determined by the presence and activity of causative agents; a causative agent or a number related to the potential number of firebrands (embers) to which a given area will be exposed during the day. (<http://www.nwcg.gov/pms/pubs/glossary>)

Fire Safe Building Standards – Various laws and codes that apply accepted fire safety practices (as determined by scientific research panels and associations, with replicated results) into construction of assets. Examples of laws and codes include; California Fire Code Chapter 49, California Building Code Chapter 7A, Public Resource Code, §4290 and Fire Safe Regulations, §1270.

Fire Safe Councils (FSC) – A group of concerned citizens organized to educate groups on fire safe programs, projects and planning. The Councils work closely with the local fire agencies to develop and implement priorities. (<http://www.firesafecouncil.org>)

Fireshed – A contiguous area displaying similar fire history and problem fire characteristics (e.g., intensity, resistance to control) and requiring similar suppression response strategies.

Fire Suppression Resources – State, federal, tribal, local and private equipment and resources gathered to extinguish and mitigate wildland fires.

FIREWISE – A national program designed to reach beyond the fire service by involving homeowners, community leaders, planners, developers, and others in the effort to protect people, property, and natural resources from the risk of wildland fire before a fire starts. The Firewise program is community driven.

Fire Hazard Severity Zones – Areas of significant fire hazards based on fuels, terrain, weather, and other relevant factors. These zones, then define the application of various mitigation strategies to reduce risk associated with wildland fires.

Forest and Rangeland Health – An expression of the prevalent ecological conditions on a landscape as compared to benchmark conditions yielding maximum benefit to multiple resource values - ecological, economic, and social/political.

Fuels Treatment – The manipulation or removal of fuels to reduce the likelihood of igniting and to reduce fire intensity (e.g., lopping, chipping, crushing, piling and burning).

Fuels Reduction Projects – The modification of vegetation in order to reduce potential fire threat. These projects often result in improved wildlife habitat capability, timber growth, and/or forage production.

GIS – Geographic Information Systems is a configuration of computer hardware and software that stores, displays, and analyzes geographic data spatially or through attribute features.

Hand Crews – A number of individuals organized, trained, and supervised principally for fire suppression or fuel reduction projects. A CAL FIRE hand crew may be staffed by inmates or California Conservation Corps.

Hazards Mitigation Plan – Plans that form the foundation for a community's long term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. These plans are required by the Federal Emergency Management Agency (FEMA).
<http://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/hazard-mitigation-planning/local-hazard-mitigation-program>

Initial Attack – A planned response to a wildfire given the wildfire's potential fire behavior. The objective of initial attack is to stop the fire and put it out in a manner consistent with firefighter and public safety and values to be protected. (<http://www.nwccg.gov/pms/pubs/glossary>)

Land Use Planning – A comprehensive assessment leading to a set of decisions that guide use of land within an identified area.

Local Responsibility Areas – Lands in which a local government agency is responsible for all fire protection.

Managed Fire – The use of natural or human-caused ignition within burn a prescription for purposes, including public safety and ecosystems benefits, where allowed under the policy of the agencies with primary jurisdiction.

Mutual Aid – An agreement in which two or more parties agree to furnish resources and facilities and to render services to each and every other party of the agreement to prevent and combat any type of disaster or emergency.

Native Species Seed Bank – A storage area for seed that is collected from a species which is a part of the original vegetation of the area in question.

Prescribed Fire – A planned wildland fire designed to meet specific management objectives.

Private Partners – This includes, but is not limited to, businesses, large landowners, small landowners, non-governmental organizations, and utilities.

Reforestation –The establishment of forests on land that had recent (less than 10 years) tree cover. (<http://frap.cdf.ca.gov/assessment2010/definitions.html>)

Salvage – The harvesting of dead, dying, and damaged trees to recover their economic values that would otherwise be lost to deterioration.

Situational Awareness –The application of the human senses to current and predicted weather, fire, or other emergency conditions to plan and execute actions that provide for the safety of all personnel and equipment engaged in an emergency; this includes development of alternative strategies of fire suppression and the net effect of each.

Stakeholder - denoting a type of organization or system in which all the members or participants having an interest in its success

State Responsibility Area (SRA) - State Responsibility Areas (SRA) are recognized by the Board of Forestry and Fire Protection as areas where Cal Fire is the primary emergency response agency responsible for fire suppression and prevention.

(<https://bof.fire.ca.gov/projects-and-programs/state-responsibility-area-viewer/>)

Suppression Strategy - The general plan or direction selected to accomplish incident objectives.

Unit Fire Plan – Plans developed by individual CAL FIRE Units or contract counties to address wildfire protection areas, initial attack success, assets and infrastructure at risk, pre-fire management strategies, and accountability within their geographical boundaries.

http://cdfdata.fire.ca.gov/fire_er/fpp_planning_plans

Values and Assets at Risk – Accepted principles or standards and any constructed or landscape attribute that has value and contributes to community or individual well-being and quality of life. Examples include property, structures, physical improvements, natural and cultural resources, community infrastructure, commercial standing timber, ecosystem health, and production of water.

Volunteer in Prevention (VIP) - utilize citizens and public service groups in non-salaried positions to reduce man-caused fires by 10 percent per 100,000 population within seven targeted areas: Lake-Napa, Shasta, Nevada,-Yuba-Placer, Amador-El Dorado, Santa Clara, Riverside and San Diego.

[Welcome to Volunteers In Prevention \(ca.gov\)](#)

Wildfire – An unplanned ignition; unwanted wildland fire including unauthorized human-caused fires, escaped wildland fire use events, escaped prescribed fire projects, and all other wildland fires where the objective is to put the fire out.

Wildland –Those unincorporated areas covered wholly or in part by trees, brush, grass, or other flammable vegetation.

Wildland Fire – Fire that occurs in the wildland as the result of an unplanned ignition.

Wildland Urban Interface (WUI) –The line, area, or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.

(<http://www.nwcg.gov/pms/pubs/glossary>)