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1. Assets at Risk Ranking Methodology
2. Individual Assets at Risk maps
3. NYP Implementation Process
4. PRC 4291 - Defensible Space and Fuel Break Guidelines
5. Stakeholder Input Information
6. Structural Ignitability Section
7. Auburn Recreation Area FirePlan (not updated in 2006)
8. Nevada County Fire Mitigation Framework

A. CDF Fire Plan Assets at Risk.

Asset at Risk	Public Issue Category	Location and ranking methodology
Hydroelectric power	Public welfare	1) Watersheds that feed run of the river power plants, ranked based on plant capacity; 2) cells adjacent to reservoir based plants (Low rank); and 3) cells containing canals and flumes (High rank)
Fire-flood watersheds*	Public safety Public welfare	Watersheds with a history of problems or proper conditions for future problems (South Coastal Plain, field/stakeholder input), ranked based on affected downstream population
Soil erosion	Environment	Watersheds ranked based on erosion potential
Water storage	Public welfare	Watershed area up to 20 miles upstream from water storage facility, ranked based on water value and dead storage capacity of facility
Water supply	Public health	1) Watershed area up to 20 miles upstream from water supply facility (High rank); 2) grid cells containing domestic water diversions, ranked based on number of connections; and 3) cells containing ditches that contribute to the water supply system (High rank)
Scenic	Public welfare	Four mile viewshed around Scenic Highways and 1/4 mile viewshed around Wild and Scenic Rivers, ranked based on potential impacts to vegetation types (tree versus non-tree types)
Timber	Public welfare	Timberlands ranked based on potential damage by FIA region/owner
Range	Public welfare	Rangelands ranked based on potential replacement feed cost by region/owner/vegetation type
Air quality	Public health Environment Public welfare	Potential damages to health, materials, vegetation, and visibility; ranking based on vegetation type and air basin
Historic buildings	Public welfare	From State Office of Historic Preservation, ranked based on fire susceptibility
Recreation	Public welfare	Unique recreation areas or areas with potential damage to facilities, ranked based on fire susceptibility
Structures	Public safety Public welfare	Ranking based on housing density and fire susceptibility
Non-game wildlife	Environment Public welfare	Critical habitats and species locations based on input from California Department of Fish and Game and other stakeholders
Game wildlife	Public welfare Environment	Critical habitats and species locations based on input from California Department of Fish and Game and other stakeholders – Omitted statewide in 2005 due to lack of methodology/data
Infrastructure	Public safety Public welfare	Infrastructure for delivery of emergency and other critical services (e.g. repeater sites, transmission lines)
Ecosystem Health	Environment	Ranking based vegetation type/fuel characteristics

* Fire-Flood watershed asset data is currently for southern California and has not been included in this document.

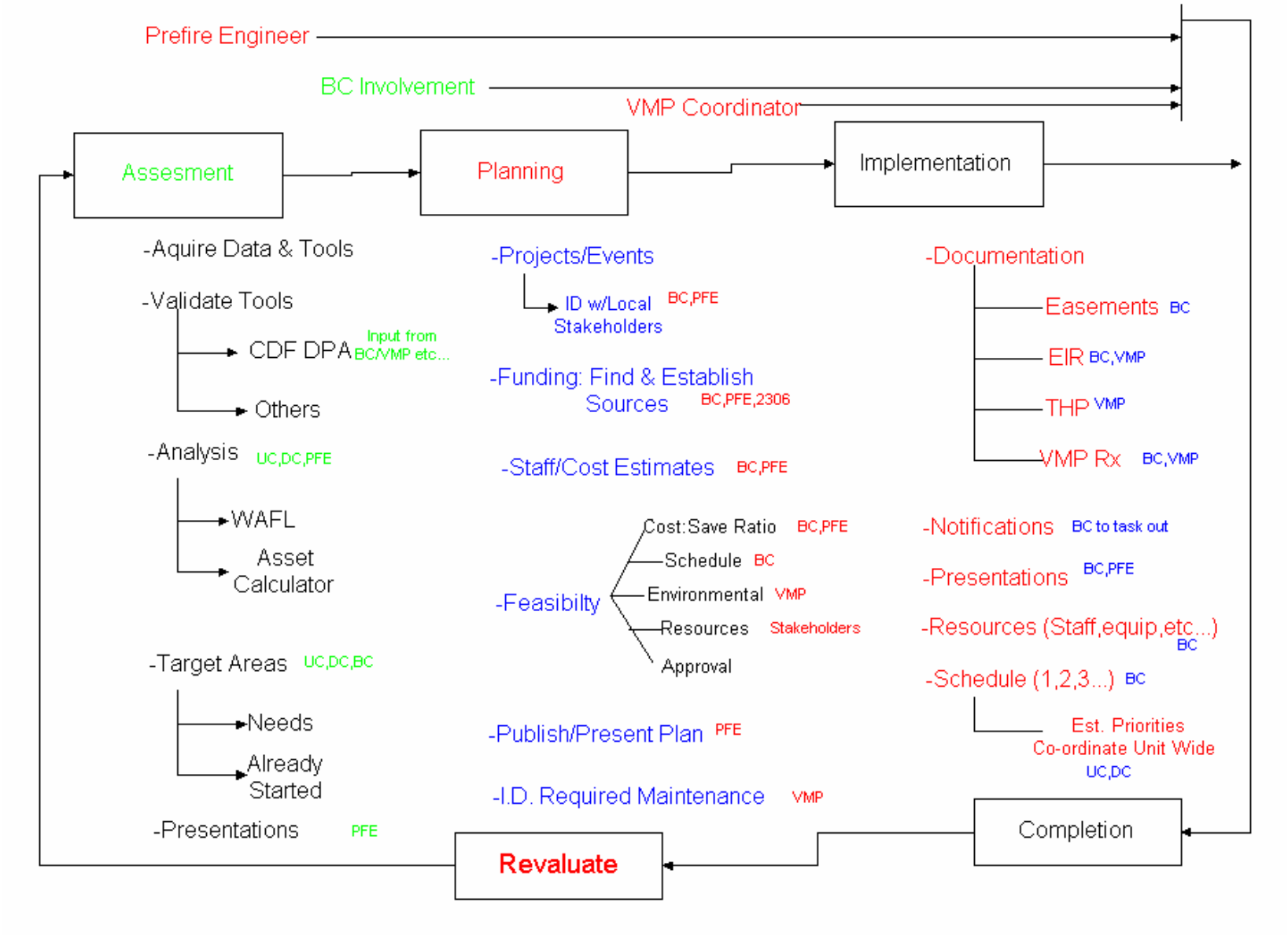
B. The individual assets at risk maps follow. (Maps located at end of document)

Some maps have not been updated as the values at risk and rankings have not changed since the last map was published.

Included are:

Hydroelectric Power
Soil Erosion
Water Storage
Water Supply
Scenic
Timber
Range
Air
Historic Buildings and Landmarks
Recreation
Housing
Wildlife: Represents both Game and Non-game Wildlife
Infrastructure
Fire-Flood Watershed
Ecosystem
All Watershed Assets Combined

NYP Pre-fire Management Plan Implementation Process



Standards for Hazardous Fuel Reduction for Nevada-Yuba-Placer Unit

In previous Fire Plans, three separate fuel reduction prescriptions were described (Defensible Space, Defensible Landscape, and Modified Shaded Fuel Break). With the adoption of the new PRC 4291 standards, NYP is recommending landowners utilize the guidelines adopted statewide. Further, we recommend landowners utilize the "Defensible Space – Reduced Fuel Zone" guidelines for areas beyond the required 100 feet. These guidelines can be downloaded from the Internet at :

http://www.bof.fire.ca.gov/pdfs/4291finalguidelines2_23_06.pdf

The prescription for a Modified shaded fuel break has been retained for reference.

Modified shaded fuel break: defined as a defensible location, where fuels have been modified, that can be used by fire suppression resources to suppress oncoming wildfires. Any fuel break by itself will NOT stop a wildfire. It is a location where the fuel has been modified to increase the probability of success for fire suppression activities. Ground resources can use the location for direct attack or firing out. Air resources can use the location for fire retardant drops. The public and fire resources can use the location for more efficient ingress and egress.

The only trees eligible to be removed under the following prescriptions are in the 10- inch diameter class (diameter of main stem at breast height) or smaller. All trees larger that the 10- inch diameter class will only be pruned to a height of 8 to 10 feet above the ground, not to reduce the live crown ratio of the plant to below 50%. Exceptions for defective trees and snags are noted below.

I. Modified Shaded Fuel Break Prescription:

Implementation consists of removing or pruning trees, shrubs, brush, and other vegetative growth on the project area. For site protection, all work is encouraged to be completed by use of a masticator and/or hand crews supported by chippers and/or burning. Heavy equipment with blades is not recommended for use for fuel reduction work.

1. ***Understory Fuels***

Understory fuels over 1 foot in height are to be removed in order to develop vertical separation and low horizontal continuity of fuels. Individual plants or groups of plants up to 10 feet in canopy diameter may be retained provided there is a horizontal separation between plants of 3 to 5 times the height of the residual plants and the residual plants are not within the drip lines of an overstory tree.

For rare and endangered species concerns, elderberry trees shall not be removed or treated within the shaded fuel breaks in elevations below 3000 feet.

2. Mid-story Fuels

Only trees up to the 10-inch diameter class (at breast height (dbh)) may be removed. Exception to this size limit shall be trees that have significant defect and/or which do not have a minimum of a 16-foot saw log. Live but defective trees larger than the 10-inch diameter class providing cavities or obvious wildlife use will be retained.

Trees shall be removed to create horizontal distances between residual trees from 20 feet between trunks up to 8 to 15 feet between tree crown drip lines. Larger overstory trees (> 10 inches dbh) do count as residual trees and, in order to reduce ladder fuels, shall have vegetation within their drip lines removed. Prune branches off of all residual trees from 8 to 10 feet off the forest floor, not to reduce the live crown ratio below 1/2 of the height of the tree.

For rare and endangered species concerns, elderberry trees shall not be removed or treated within the shaded fuel breaks below the 3000 feet elevation level.

Criteria for residual trees (< 10 inch diameter class (dbh)):

Conifers:

Leave trees that have single leaders and thrifty crowns with at least 1/3 live crown ratio.

Conifer leave tree species in descending order:

- Ponderosa pine
- Sugar pine
- Douglas fir
- White fir
- Incense cedar

Intolerant to shade species have a higher preference as leave trees because their seed will be less likely to germinate in the understory.

Snags

Snags are a conduit for fire spread during a wildfire. However, they also provide excellent wildlife habitat in their natural state. The following is the criteria of when snags shall be retained:

18 inch diameter class or larger and not more than 30 feet in height which are not capable of reaching a road or structure provided there is a separation of least 100 feet between snags.

Hardwood trees:

Leave trees that have vertical leaders and thrifty crowns with at least 1/3 live crown ratio. Retain all elderberry trees.

Hardwood leave tree species in descending order:

- Big Leaf Maple- Riparian area, less common
- Blue Oak - least leaf surface area, less volatile when burning
- Black Oak - higher leaf surface area
- Madrone - more volatile when burning
- Live Oaks - most volatile when burning, branches closest to ground.

Brush:

It is desirable to remove as much brush as possible within the shaded fuel break area. However, if individual plants or pairs of plants are desired to be left, leave plants with the following characteristics: young plants less than 5 feet tall and individual or pairs of plants that are no more that 5 feet wide. Retain all elderberry trees.

Brush leave species in descending order:

- Toyon – Less Common
- Buckeye – Less Common
- Dogwood – less common
- Lemmon Ceanothus - less common, less volatile
- Buck brush (Wedge leaf ceanothus) - smaller brush plant, less volatile
- Redbud - less common

Coffeeberry - less common
Whitethorn - lower lying plant
Deer brush - larger plant, high leaf surface area, more volatile when burning
Manzanita - larger plant, high leaf surface area, more volatile when burning
Chamise - foliage contains highest amount of flammable oils, most volatile when burning

3. Wetlands:

Functional wetlands will be avoided for treatment and ground operations.

4. Watercourse and Lake Protection Zone (WLPZ):

To provide mitigation for riparian associated species and to reduce the potential risk of habitat fragmentation, the following will apply:

WLPZ widths shall be in conformance with Title 14, California Code of Regulations, 936.5, Procedures for Determining Watercourse and Lake Protection zone Widths.

916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures916.5, 936.5, 956.5 Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures [All Districts]

Table 2

Procedures for Determining Watercourse and Lake Protection Zone Widths and Protective Measures[1]

Water Class Characteristics or Key Indicator Beneficial Use	1) Domestic supplies, including springs, on site and/or within 100 feet downstream of the operations area and/or 2) Fish always or seasonally present onsite, includes habitat to sustain fish migration and spawning.		1) Fish always or seasonally present offsite within 1000 feet downstream and/or 2) Aquatic habitat for nonfish aquatic species. 3) Excludes Class III waters that are tributary to Class I waters.		No aquatic life present, watercourse showing evidence of being capable of sediment transport to Class I and II waters under normal high water flow conditions after completion of timber operations.		Man-made watercourses, usually downstream, established domestic, agricultural, hydroelectric supply or other beneficial use.	
Water Class	Class I		Class II		Class III		Class IV	
Slope Class (%)	Width Feet	Protection Measure	Width Feet	Protection Measure	Width Feet	Protection Measure	Width Feet	Protection Measure
					[see 916.4(c)] [see 936.4(c)] [see 956.4(c)]		[see 916.4(c)] [see 936.4(c)] [see 956.4(c)]	
<30	75	BDG	50	BEI	See CFH		See CFI	
30-50	100	BDG	75	BEI	See CFH		See CFI	
>50	150[2]	ADG	100[3]	BEI	See CFH		See CFI	

1 - See Section 916.5(e) for letter designations application to this table.
2 – Subtract 50 feet width for cable yarding operations.
3 – Subtract 25 feet width for cable yarding operations.

Class I watercourse (Fish bearing):
Exclude from treatment and equipment operations (except on existing roads).

Class II watercourse (Aquatic habitat for nonfish aquatic species):
No treatment of overstory and the treatment of understory will not reduce vegetative cover below 50%. One thousand hour and smaller sized dead fuels ($\leq$ 5 inches in diameter) will be removed. Ground based equipment will not operate within the zone except on existing roads. Prune residual trees.

Class III watercourse (No aquatic life present):
Full shaded fuel break prescription will be implemented but no ground based equipment will operate within the zone except on existing roads.

Summary of AAR Adjustments in Response to Stakeholder Comments
Nevada-Yuba-Placer Ranger Unit
FRAP 7/26/96

Hydroelectric

Stakeholder	Comment	Action/Response
YCWA	There are 2 plants at Englebright Lake, and since their output is over 50 it should be ranked medium	They were added to the database from the DWR list. However, all reservoir based plants are treated as Low ranking, regardless of capacity
YCWA	Sedimentation of storage facilities can reduce power generation	The primary impact on power we considered was sedimentation affecting equipment. Since reservoirs help to settle out particles, reservoir based plants are all ranked low. If others in this stakeholder group also think that power reduction due to lowered storage capacity is significant, we may want to rethink how we rank reservoir based power plants.
PCWA	There are missing plants in Michigan Bluff and Foresthill quads	The DWR list has the Oxbow and Ralston plants in this area (both PCWA). PCWA provided lat-lon for these plants.
PCWA	Provided lat-lon coordinates for 5 plants	Used the data to generate new locations for these plants
NID	Provided erodibility estimates for some lakes/reservoirs	Changed ranking for Bowman and Spaulding reservoir based plants from Low to unranked due to low erodibility
NID	Provided a map showing plants and canals	Led to some minor adjustments in plant locations, major adjustment for Chicago Park Plant. Also was invaluable for locating additional canals. Assumed that the canals above NID were primarily for power, at or below NID are for water supply.

Fire-Flood

The input from stakeholders is difficult to use in its current form, since they identified streams, not watersheds. I suggest we start printing copies of the 3D large stakeholder map and add CALWATER planning watershed boundaries. We can provide these to stakeholders to identify actual watersheds.

Secondly, the rankings they are assigning are not consistent with the description of this AAR. The ranking should be based on downstream population that might be affected by the fire-flood

sequence (this is a public safety issue!). Stakeholders need to be given proper direction to distinguish this AAR from the soil erosion AAR, which is related exclusively to erodibility.

Some areas they identified in lower elevations certainly have a flooding problem, but fire probably has a minimal impact due to low erodibility and flat slopes. After further discussions between our hydrologist and the stakeholders, we eliminated all areas except the Bear River drainage, which is assigned a Low ranking.

Water Storage

Stakeholder	Comment	Action/Response
NID	Provided a map and a list of facilities with dead storage capacity and erodibility 1) a number of smaller facilities we missed were listed, but they all had low erodibility 2) Rollins was listed as having high capacity 3) Bowman, Jackson Meadows, and Lake Spaulding were identified as having low erodibility	1) these facilities would not be ranked so we did not add them in 2) changed ranking to Low 3) Changed to unranked
YCWA	Bullards is a critical source of ag water for Yuba County	Under our criteria this is still classified as a storage facility. Since they consider it to be high value, we could rank it High for storage under our criteria if it also has a low dead storage capacity. Based on their concerns, I changed the rank to High.
YCWA	Camptonville quad cells 27, 36, and 43 contribute to sedimentation which is a big problem here	Changed rank of these cells to High

Water Supply

Stakeholder	Comment	Action/Response
NID	Provided maps of ditch locations	Within the NID area, ditches on the map were captured and assigned as water supply features.
	Combie?	

Scenic

Stakeholder	Comment	Action/Response
?	Tahoe Basin should be ranked High - designated as a National Treasure by Congress	Assigned a High ranking to Tahoe Basin
?	The American and Yuba rivers are designated scenic rivers	According to our information, the American is designated, and this has been added. However, the Yuba is designated as ✌study✍ and was not added
?	I80 and hwy49 are designated scenic	We have parts of them included
?	All areas over 5500' should be designated as scenic	Many of these areas are (e.g. Tahoe Basin). Ranking all these lands would diminish the relative importance of the areas that are currently ranked
?	Trails should be designated as scenic	Some of the more prominent trails may be ranked in the recreation AAR. Capturing and ranking all trails is probably not realistic.
?	Hwy89 and 267 in Tahoe should be included	Part of 89 is in the scenic loop. Also, part of 89 that starts at the county line but goes into El dorado county is designated scenic - its viewshed does extend into NEU.

Air

Concerns were raised over the studies used as the basis for the methodology. While the absolute dollar values can be questioned, the real issue is whether relative rankings between air basins/veg types are correct. Since no stakeholder provided meaningful comments to suggest changes, the initial rankings were retained.

Recreation

Based on stakeholder input, the Western States Trail was added as a recreation feature.

Game Wildlife

In 2005 we were informed that this category had been omitted from the statewide assessment process as there was no agreed upon methodology to assess the data. NYP has left this item in

due to stakeholder input. We will be utilizing the default values until such time as we can come up with a widely accepted methodology to rank these values.

Non-game Wildlife

We were never able to get participation from the local Fish and Game biologist, i.e. the data were never validated. Kevin Schaefer suggested that we just use the initial rankings.

Also, the Forest Service did not agree with the representation of their lands. In the future, we need to work closer with them to take advantage of the expertise they have related to USFS lands.

Infrastructure

Since this was added relatively late in the NEU process, it was never validated.

Soil Erosion

We attempted to construct rankings based on stakeholder input, but it was never received. Late in the NEU process we implemented a methodology for ranking cells for soil erosion, but this was not validated.

Recommendations for Ignition Resistant Building Construction

One of the major objectives of wildfire control in general, and pre-fire management hazard reduction in particular, is reducing the loss of life and property. The historical pattern of building loss during Interface fires indicates that vegetation fuel management must go hand-in-glove with ignition resistant building construction to maximize the effectiveness of fire loss mitigation measures.

Building loss and survival on the 1961 Bel Air fire, which destroyed 505 houses, was well documented. The report "**Decision Analysis of Fire Protection Strategy for the Santa Monica Mountains**" (available at http://www.ucfpl.ucop.edu/UWI%20Documents/167.pdf) found that 71% of the buildings with 26-50 feet of brush clearance survived the fire. However, the survival rate of buildings exposed to the fire increased to 95% for houses that had both brush clearance and ignition resistant building construction (in this case non-wood roof covering). A similar pattern was seen on the 1990 Santa Barbara Paint fire (Source: "**California's I-Zone: Urban/Wildland Fire Prevention & Mitigation**" p.120).

On the Paint fire, which destroyed 479 houses and major buildings, the survival rate (above) was 86% for houses with both non-flammable roofing and 30 feet of brush clearance. Only 4% of the 438 houses surveyed in the Paint fire survived where non-flammable roofing and 30 feet of brush clearance were absent. The modeling of structure loss and survival on the Paint fire revealed that brush clearance alone only "explained" or accounted for 11% of the variation seen in the structure survival patterns.

This is strong evidence that vegetation management *alone* will not be able to fully explain, nor mitigate, building loss on wildfires. Hence the need for the comprehensive approach in this plan, using a combination of vegetation management and addressing recommendations for ignition resistant building construction. This is also strong evidence that this comprehensive approach will work. The "***Los Angeles Times***" (1 April 2004) reporting on the Southern California conflagrations of October 2003 clearly revealed the need for, and effectiveness of, combining vegetation management and ignition resistant building construction for reducing building loss in wildfires:

> "Amid the ashes of the most costly wildfires in California's history lies evidence of a crucial lesson: Fire-resistant construction and vigilant removal of flammable vegetation significantly improved the odds of a home's survival, according to a Times analysis of fire records from more than 2,300 destroyed structures.
>
> The impression left by an out-of-control fire racing through communities can be one of random destruction, with one house, or a whole block, burned to the ground and the next one spared for no apparent reason.
>
> In fact, according to the Times analysis - which covered homes destroyed by the deadliest of the blazes, San Diego County's Cedar fire - houses built since 1990 were far less likely to burn than those constructed in any previous decade. Houses built during the 1990s were damaged or destroyed at less than half the rate of houses built earlier."

The communities and homeowners covered by this plan have, for the past 40 years, had recommendations that can be (and have been) taken to reduce the ignitability of structures. An outcome of the 1961 Bel Air fire was publication of the ***"Fire Safety Guides for California Watersheds"*** by the County Supervisors Association of California in 1965. These recommendations have been updated through the years. The current version of these "Fire Safe Guides" is ***"Structural Fire Prevention Field Guide for Mitigation of Wildfires"*** and can be found at http://osfm.fire.ca.gov/structural.html.

These recommendations for ignition resistant building construction include:

- Roofing
- Eaves & Balconies
- Exterior Walls
- Rafters
- Windows
- Doors
- Attic ventilation openings
- Underfloor Areas

In response to the persistent loss of life and property in wildfires the most important of the recommendations is now a requirement. All new buildings, and significant re-roofing of existing buildings in the communities covered by this plan are required to have ignition resistant roofing (California Building Code §1503).

Additional information regarding Structural Ignitability may be found on the Internet at http://www.nps.gov/fire/download/pub_pub_wildlandfirethreat.pdf

Auburn State Recreational Area

June 2005
(not updated for 2006)

Fire Management Plan

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2004

INTRODUCTION

The United States Bureau of Reclamation is responsible for the management of the Auburn Dam and Reservoir Project lands, a project originally authorized by Congress in 1965. The total acreage within the project boundary is 42,000 acres. Of this, Reclamation has ownership for approximately 26,000 acres. The remaining acreage is owned by BLM, the United States Forest Service, and private parties. California State Parks and Recreation (CSP) and California Department of Forestry and Fire Protection (CDF) have management authority over all Project lands through cooperative agreements with Reclamation. The total lands are known as the Auburn State Recreation Area (ASRA) and are operated by the State of California as a state recreation area.

The California Department of Forestry and Fire Protection has provided fire prevention and suppression services at the Auburn Dam and Reservoir project lands since 1979. Elements identified in the contract as a part of fire prevention and suppression services involve: 1) plan for fire suppression, 2) patrol the designated areas, 3) operate heavy equipment to construct and maintain fire roads, breaks and to reduce fire fuel, and 4) improve wildlife habitat.

This document will guide the activities of CDF personnel and act as a plan to accomplish fire prevention and pre suppression activities in the Auburn State Recreation Area.

STRATEGY

The strategy involved with identifying fire prevention activities in the ASRA is similar to that of developing a battalion fire prevention plan. The process begins by evaluating historic and potential ignition locations and causes. Identifying the assets at risk from wildfire within and immediately adjacent to Reclamation lands. Evaluating fire history, and evaluating fuels hazards throughout. An additional component involves an assessment from Department of Parks and Recreation resource ecologists to identify ecosystem conditions and what prescribed fire's role would effect.

After combining and evaluating the factors listed, pre-fire management activities or a prescription will be established in order to mitigate the identified threats, hazards of wildfire ignition, and protect assets at risk from wildfire.

An approach using "target areas" may be used to assist with focusing efforts; however, as of the time of this document creation, it is not necessary.

VISION STATEMENT

It is important to describe the, "Ideal Condition" of the Reclamation lands receiving fire prevention service. This statement provides the "light at the end of the tunnel", and is the condition which to focus activities towards.

A setting where accomplished fire prevention activities mitigate wildfire ignition and wildfire effect involves: 1) Fuel breaks adjacent to resource and property assets threatened by fire on Reclamation lands, 2) maintained fire roads with safety zones in strategic locations, 3) handline constructed around day use areas/picnic areas throughout the ASRA, 4) maintenance of established fuel breaks 5) fire prevention signage at all use areas throughout the fire season, 6) coordinated forest and fire law enforcement and patrol in all areas of ASRA, 7) establishment of industrial operations guide for industrial operators on Reclamation lands, with enforcement of the regulations within the guide and, 8) continued aggressive fire suppression of wildfires within the ASRA under CDF's operating procedures.

GOAL

To protect life and both public and private resources by reducing the risk and hazard of wildland fire within the Auburn State Recreation Area by implementing management strategies that promote the preservation and restoration of natural resources and protection of cultural resources.

FIRE PLAN ASSESSMENTS

Fire plan assessments influence the prioritization and selection of fire prevention activities. These factors are the proof or statistics supporting prioritization. Not all projects are prioritized based on the assessments; other influences guide projects as well, such as: Politics, past practice, cost and ethics.

Fire Ignition History and Potentials

The leading number of ignitions in the ASRA are categorized as "miscellaneous" causes. Statistically, this information is not of much assistance to the planner, however, the following is. Arson is the second highest cause. Many fires are unidentified, which can be translated to either arson or vehicle caused fires. See Ignitions Map and Cause maps for distribution by cause.

VEHICLES
There are several thoroughfares within the ASRA, Hwy 49, Forest Hill Rd, Yankee Jims Rd, Ponderosa Way, and Auburn Foresthill Rd. These roads provide the highest potential from which, fires may start. The fire ignitions originate from vehicle exhaust, vehicle fires, and arson.

Other vehicle fire potential stems from the recreational vehicle use at Mammoth Bar and traffic leading to it. It is imperative that recreational vehicle exhaust systems be checked for compliance and limited to designate areas. Additionally, it must be mentioned, there has not been a recorded fire starting from a recreational vehicle within the Mammoth Bar OHV area. This displays the effectiveness of managed recreational use and adequate engineering to prevent fires from the OHV area.

POWERLINES
Another potential ignition source exists from power line system within the ASRA. 3% of fires in the ASRA have been a result of powerline caused fires; however, these fires contribute a high percentage of acres, relatively, to the overall acres burned over the last twenty years. The ASRA contains both transmission and distribution lines, which must be inspected annually.

RECREATIONAL
Wherever there are human activities, the potential for fire exists. The ASRA provides recreation opportunities, which enable people to venture into the wildland by vehicle, foot, and other non-conventional means. Although, there is not a high quantity of fires starting from people hiking, fishing, bike riding, horse back riding and rafting, uneducated people burning toilet paper, sparks from horseshoes striking rocks, and illegal warming fires create the potential for fire ignitions. Fires started by these sources may be difficult to access by firefighting personnel, thus the fires get to extended attack and major status. The Ignitions Spot Map displays the pattern of fire causes and their relative location. It is obvious that many fires originate around the "confluence" and the Forest Hill Bridge. These areas will receive, as they have in the past, high fire prevention attention.

It is important to note that since 1990 there have been approximately 100 fires in the ASRA, while the ASRA has received extremely high visitation. The ASRA received 287,891 visitors in fiscal year 1994-1995 and has steadily increased to 987,971 visitors in fiscal year 2000-2001. The ratio of fire starts to visitors is very low. Much of this success is related to managed recreational use and steady fire prevention efforts. (See Ignition Spot Map).

ASSETS AT RISK

Assets at risk in the ASRA involve natural resources and private properties in the form of residential structures and the lives of the people living in them. Structures located within the ASRA and whose residential properties adjoin the property with Reclamation lands are threatened by fire originating from the ASRA. On the other hand, natural resources are threatened by fires originating from those same structures. These interface lands create a significant management issue and will be addressed later in this document (see Housing Density Map). Reduction and quick control of unwanted fires protects these assets.

The location of highest structural risk involves the structures on the canyon rim in the City of Auburn and unincorporated areas down canyon and up canyon of the City. These residential properties share boundaries with the Reclamation lands and thus are directly influenced by wildfire originating on Reclamation lands.

The location of second highest priority involves the interface at the community of Cool in El Dorado County. This community has a moderate housing density and is also an exposure to wildfire burning out of the ASRA and into the community as does the threat from fire burning into the ASRA from the community. There is a process of further developing and maintaining a fuel break on the canyon rim adjacent to Cool primarily being performed by the CDF battalion chief in Amador –El Dorado Unit who has the Cool are in his/her battalion.

WILDFIRE HISTORY

Unfortunately, the fire history map in this document includes fires over 300 acres in size, however, the ignition spot map may be used to identify fire frequency. The benefit of the fire history map relates to the frequency of large damaging wildfires in the ASRA. Another aspect of the map reveals where fire has not occurred, which identifies the build up of fire fuels, which identifies the potential for large damaging fires. Another aspect of the map reveals the dependence that fire suppression resources put on stopping fires at the ridge tops. This information is useful while interpreting future and existing fuels management projects to other agencies and citizens.

FUEL HAZARD

The Fuel Hazard map displays fuel hazard status to the nearest 450 acres. Although, this map does not reflect fuels management activities, it can display the current status over the general area and show what the vegetation potential is. The last fires to burn in the ASRA having significant vegetation impacts were in the 1960s, yet the fuels status are high and very high. If correlated with the fire history map, the amount of fire fuels build up from a lack of fire is also evident.

WILDLIFE HABITAT

The most effective method of restoring the ecosystem to its original state is to reintroduce fire into the ecosystem. This creates edge, diversity, and reestablished native plant and animal species. The additional benefit is a reduced fuel load assisting fire suppression forces during wildfire events.
Identify on map. State Parks resource ecologists have been consulted to provide information regarding potential projects involving prescribed fire and any favorable locations to burn. Although, a response to my request for input for relating to potential controlled burn locations has not been received, coordination efforts will me continued with CSP resource ecologists.

LAW ENFORCEMENT

There will be a continuous effort to enforce the Public Resources Code in the ASRA for both planned activities and patrol. Additional laws will be enforced as encountered by the Captain Specialist, such as Penal and Fish & Game Codes. Federal codes may be enforced in the ASRA as the lands are federal.

The Fire Captain Specialist will perform routine patrol of day use areas and popular visitation areas throughout the park. This will be accomplished through aircraft, vehicle, off road vehicle and foot access. Close coordination will occur with State Parks Personnel during many contacts with violators and law enforcement operations.

As per the Industrial Fire Prevention Guide established by the Captain Specialist, all commercial, recreational and industrial projects will be reviewed for fire prevention standards. Inspections of industrial and recreational equipment will be conducted and documented. Red tags will be used to put equipment out of service, if necessary.

Recreational vehicles are subject to inspection, and will be a target of inspection. The Mammoth Bar OHV area is a managed OHV area that receives much attention form state park rangers. Coordination for vehicle inspection is necessary, as to not duplicate efforts and to maintain efficient law enforcement.

Private lands within the ASRA are subject to PRC regulations. Enforcement of the PRC will be a priority on those private lands within the boundaries of the ASRA. The goal is to reduce fire threats to the ASRA wildland.

ENGINEERING

Fire prevention engineering is the most influencing factor relating to protecting assets at risk from wildfire. Engineering involves the creation of fuel breaks, fire breaks, fire road construction, and other fuels management activities. *CDF's primary pre-fire engineering fuel break strategy involves two objectives: Protect assets at the canyon rims, and inhibit fire from spreading up and down the river canyons.* There is an existing system of fuel break throughout the ASRA (see Fuel Break Map), which are designed behind this philosophy. They are listed below. Both shaded and unshaded fuel breaks are evaluated for condition and need on an annual basis. The establishment of new fuel breaks is also an evolving process, which is paced by resource availability and future maintenance capabilities. There are two wildland-urban interface shaded fuel breaks proposed in the ASRA. The Auburn Shaded Fuel Break is proposed to stretch along the canyon rim adjacent to the City of Auburn, and the Auburn Lake Trails Fuel Break is proposed to rest along the canyon rim and adjacent to the community of Auburn Lake Trails. Work on the Auburn Fuel Break is scheduled to start in May of 2002 while the Auburn Lake Trails Fuel Break is proposed to begin in 2003.

Fire roads are also an integral part of pre-fire engineering. The fire road system in the ASRA is intended to provide access for fire suppression crews to areas difficult to access. Additionally, the fire road system provides, to a lesser extent, fire break benefits when applicable. The fire roads are incorporated into wildfire preplanning and tactics while fighting wildfire. Fire roads within the ASRA are maintained by CDF, and are evaluated annually. The fire roads within the ASRA are listed below. (See Fire Road Map for correspondence)

Prescribed burning is another tool used as a pre-fire engineering mechanism, which modifies fuels into a less hazardous loading and provides wildlife habitat conditions favorable to early stage succession. With the exception of the "Bridge Burn" controlled burn planning is evolving. In terms of strategic planning for prescribed burns, effort will focus on wildlife habitat improvement, exotic weed control and fire fuels reduction. With the evolution of this document, future editions will identify the strategic use of controlled burning.

FUEL BREAKS IN THE ASRA (Does not include trails)

NAME	LOCATION	NUMBER
Long Point Fuel Break	Upper end of Lake Clem, South of river	1
Drivers Flat	Drivers Flat road area south of Long Point	2
Brushy Mtn	Along Brushy creek down to Middle Fork	3
Mammoth Bar	Connects Forest Hill Rd & Mammoth Bar	4
Auburn Shaded Fuel Break	Along canyon rim/ Auburn City	5
Auburn Lake Trails Fuel Break	Along canyon rim/ Auburn Lake Trails	6

FIRE ROADS

NAME	LOCATION	NUMBER
Stage Coach	Under Forest Hill Bridge	1
Drivers Flat	Drivers Flat to river canyon	2
McKeon- Ponderosa	Middle fork to Ponderosa Rd	3
Lake Clementine Access	Lower Lake Clem Rd to middle of Lake	4
Knickerbocker Flat	Olmstead Loop trail, Cool	5
Long Point South	Foresthill Rd to Mid Fork Am River	6
Long Point North	Foresthill Rd to N. Fork Am River	7
Western States	Hwy 49 under Robie Point	8

INFORMATION/EDUCATION

Information and education is a necessary tool to the prevention of fire within the ASRA. CDF will be proactive in attempts to reach visitors to the ASRA. The primary method of information will come from sign posting. Non traditional sign locations will be identified and posted. The public contact made by the Fire Captain Specialist will be a major educational component, and when necessary, media releases will be made through radio and newspapers.

YEAR 2005

FIRE PREVENTION PLAN

The intent of this annual Plan is to organize a sequence of events or projects that drive CDF personnel to achieving the goals and vision described in the Auburn State Recreation Area Fire Prevention Plan.

In 2005, there will be few new developments for fire prevention on the Bureau of Reclamation Project Lands (ASRA). Most of the fire prevention activities will be maintaining and revisiting projects developed in 2002 & 2003. Fire prevention projects within the ASRA are categorized within the following three wildfire prevention elements: Law Enforcement, Engineering-Planning, and Information-Education.

LAW ENFORCEMENT

PATROL

Law enforcement patrols will occur throughout the ASRA, although, high priority areas will receive more frequent patrol, many areas of the park will be patrolled. High priority patrol areas include: **River confluence, Lake Clementine (upper and lower), down river of confluence, and Mammoth Bar.** These areas receive the majority of visitation during the summer and have a history of fires.

Priority
H__X__
M____
L_____

There will be coordinated patrol efforts between state park rangers and CDF (P2323). Often the need arises for hike-in contacts or high-risk contacts, where back up and more officers are necessary to make contact with violators. As these situations arise without notice, the mutual aid efforts are developed as needed.

There is intent to have 4th of July patrols throughout the recreation area, with the high use/priority areas receiving the majority of attention. Law enforcement operation will involve surveillance and high visibility patrols. This effort will be coordinated with other law enforcement agencies if the need arises.

Priority
H__X__
M____
L_____

INSPECTIONS / CODE ENFORCEMENT

There will be a meeting between PG&E and CDF to identify distribution and transmission lines throughout the ASRA. These lines will be inspected for PRC 4292 and 4293 compliance. All lines on private lands within the ASRA will also be subject to inspection. Violations will be documented and handled throughout the fire prevention bureau's notification or citation process.

Priority
H____
M_X___
L_____

There will be inspections of all commercial, industrial and recreational projects within the ASRA for PRC compliance and compliance with the requirements identified in the Fire Prevention Requirements for Industrial, Commercial, and Recreational guide for the ASRA. Equipment will be inspected on all such operations. (Refer to Guide for additional information).

Priority
H__X__
M____
L_____

All structures on private lands within the ASRA will be inspected in accordance with PRC 4291 as will the code be enforced on such properties. Recording of the location of structures and compliances will be obtained for future records.

Priority
H_X___
M____
L__ ___

Further review will be conducted of all activities within the ASRA to determine if fire prevention has been addressed as a condition of implementation. For example, a policy and procedure will be discussed with State Parks involving off road vehicle restrictions during high fire hazard days within the ASRA

Priority
H_____
M__X__
L_____

ENGINEERING / PLANNING

Implement CDF's Fire Prevention Plan for Industrial, Commercial and Recreational Operations for the Auburn State Recreation Area.

Priority
H__X__
M____
L_____

Update the CDF Fire Prevention Plan for the Auburn State Recreation Area for 2005 and complete a year-end report of activities for 2004.

Priority
H__X__
M____
L_____

FUEL BREAKS

Continue implementation of the Auburn Shaded Fuel Break. The fuel break is 75% complete. It will be necessary to contract with the RCD for them to hire a project manager on CDF's behalf in order to continue to have a project manager to work on the project.

Priority
H__X__
M____
L_____

Continue herbicidal and manual maintenance treatments of the Auburn Shaded Fuel Break, State Park Headquarters and the BOR building on Maidu Rd.

Priority
H__X__
M____
L_____

Continue implementation of the Auburn Lake Trails Shaded Fuel Break in conjunction with AEU CDF.

Priority
H__X__
M___
L_____

There will be general fuels reduction work accomplished in all campgrounds in attempts to reduce spotting potential of any fire that does occur within a campground.

Priority
H__X__
M___
L_____

There will be an ongoing effort to identify and record existing fire roads, and fuel breaks along with identifying the need to develop additional fire roads and fuel breaks. Concurrently, there will be an effort to revisit fire roads and fuel breaks that have gone un-maintained for over time. Efforts will occur in the Spring to prioritize projects accordingly.

Priority
H__X__
M___
L_____

FIRE ROADS

The following fire access roads will be graded this year:

Stage Coach	Hwy 49 to Robie point	**Priority** H____ M__X__L_____
Long Point	Drivers Flat to river canyon	**Priority** H____ M__ __L__X___
McKeon- Ponderosa	Middle fork to Ponderosa Rd	**Priority** H____ M__X__L_____
Lake Clementine Access	Lower Lake Clem Rd to middle of Lake	**Priority** H___ M____L__X___
Knickerbocker Flat	Olmstead Loop trail, Cool	**Priority** H____ M_____L X___
Sliger Mine Road	Park boundary to Cherokee Bar	**Priority** H_X___ M_____L ___

More effort will be made to identify fire roads within the ASRA that should be maintained by CDF. The names will be recorded in the Master ASRA Fire Prevention Plan and prioritized in terms of strategic importance. A corresponding map will also be produced.

Priority
H__X__
M___
L_____

HAND LINE CONSTRUCTION

Handline firebreaks will be constructed around each area where campfires are permitted. Theses areas include:

GROUND FIRES ALLOWED			BBQS ALLOWED(Seasonal)
Iowa Hill Campground			Yankee Jims Parking
Drivers Flat Campground			Ponderosa Way Parking area
Kelleher Campground	ALL	**Priority** H__X__ M____ L_____	ALL	Upper Lake Clem Day Use area
Lake Clementine Boating Access Camps			
Cherokee Bar Campground			

Handlines will be constructed along both sides of the North Fork of the American River at the Forest Hill Bridge. This will be accomplished in June 2004.

Priority
H__X__
M____
L_____

PRESCRIBED FIRE

Understory burning between control lines around the Forest Hill Bridge.

Priority
H__X__
M____
L_____

There might be some understory burning conducted on the Auburn Shaded Fuel Break for maintenance purposes.

Priority
H____
M____
L___X__

INFORMATION / EDUCATION

Ensure fire prevention signing is posted throughout ASRA and that signs are in good condition. Make repairs or replace as needed.

Install fire prevention signs at Cherokee Bar.

Priority
H__X__
M____
L_____

Nevada County Fire Plan Document

THE NEVADA COUNTY FIRE PLAN

A FRAMEWORK FOR REDUCING THREATS TO PUBLIC SAFETY AND REDUCING COSTS AND LOSSES AS A RESULT OF WILDFIRE IN NEVADA COUNTY

August 2004

ACKNOWLEDGEMENTS

This Fire Plan was prepared with the assistance of numerous individuals who contributed immeasurably to what the Fire Plan Committee believes to be one of the most comprehensive fire plans in the state. Without this group of individuals bringing their broad range of backgrounds and interests to the discussion table, the effectiveness and overall acceptability of the Fire Plan would not be what it is today.

Although many people contributed at various points along the way, a group of individuals were a part of the process from start to finish. The Fire Plan Committee extends their thanks and appreciation to the following people for their interest and contributions:

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NEVADA COUNTY FIRE PLAN COMMITTEE
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Tim Fike, Fire Chief, Nevada County Consolidated Fire District (NCCFD)
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Jeff Dunning, Nevada County Fire Safe Council (FSC)
Assisted by
911 Consulting Group, Inc
William F. Maxfield, Chief Consultant
Jim McFadden, Senior Consultant

MISSION STATEMENT

PROVIDE RECOMMENDATIONS TO THE BOARD OF SUPERVISORS OF MEASURES TO REDUCE THE IMPACTS OF WILDLAND FIRES TO LIFE, PROPERTY AND NATURAL RESOURCES IN NEVADA COUNTY.

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FIRE PLAN SUMMARY

On September 23, 2003, faced with a history of large and damaging wildland fires in California and clear indications the trend would continue, the Nevada County Board of Supervisors appointed a five member Fire Plan Committee (FPC) and charged it with developing the Nevada County Fire Plan (NCFP) that would reduce the risk from wildland fires in the County and that would comply with the Disaster Management Act of 2000 and the Healthy Forest Restoration Act of 2003.

The committee, consisting of local, state and federal fire service professionals, as well as representatives from the Nevada County Office of Emergency Services and the Fire Safe Council of Nevada County, provided direction for the Fire Plan development. Committee members were principal advisors and planners for this project and identified key interface issues, which were then refined and validated by a series of focus groups held throughout the County; resulting in a county fire plan designed to reduce the impacts of high intensity, large damaging wildland fires.

Over nine months, the Fire Plan Committee held eighteen public meetings and received public comment on the draft plan in 15 workshops which ultimately led to the Nevada County Fire Plan. This effort was based on an understanding that a century old public policy of fire exclusion in an ecosystem dependent upon fire as a natural fuels management tool has led to the current situation of a tremendous over accumulation of fuels and a predictable likelihood of continued high intensity, large and damaging fires in Nevada County.

These predictable fire dangers are compounded by the increasing number of homes and people living within the wildland urban interface of the County. As a result of four major fires in Nevada County in the last 16 years, nearly 200 structures have been destroyed, with costs of over 33 million dollars in damages and almost $40 million in suppression costs.

With the experience of the fire professionals on the committee, input from the public and community stakeholders, and a survey of priorities from the public attendees, as well as research of existing local and state codes and regulations, a long term plan focusing on wildland fuels reduction in Nevada County was developed. This plan is based on recognition of the danger brought about by the vast accumulation of wildland fuels in Nevada County, a problem that is compounded by a human desire to live in an environment where fire has historically been a part of the ecosystem.

The plan focuses on reducing the impacts of large and damaging wildland fires through 42 specific recommendations.[1] These recommendations were agreed upon through a formal prioritization process by the FPC as well as stakeholder input from the public meetings. Those dealing with fuels management and the continuation of fuels reduction assistance programs were determined to be of highest priority by both the public and the FPC.

The efforts of this committee were guided by the premise that the plan needed to present reasonable and achievable recommendations that would directly and positively impact our ability to reside in Nevada County with significantly reduced risk from wildland fire. With the implementation of this plan and the acknowledgement of property owners of their stewardship responsibilities on their own land, the contributors to this plan feel that goal can be reached. Even though we can not be completely assured that losses from wildland fire can ever be fully eliminated, we do know that without significant intervention, the likelihood of large and damaging fires is not only inevitable but will be repeated time and time again.

The Fire Plan Committee developed a collaborative approach for reducing wildland fire risks to communities and the environment in Nevada County. This collaborative approach reflects the views of a broad cross-section of governmental and nongovernmental stakeholders. It outlines a comprehensive approach to the

[1] See Table in Appendix - A

management of wildland fire, hazardous fuels, and ecosystem restoration and rehabilitation on public and private forest and range lands in Nevada County. The Fire Plan emphasizes measures to reduce the risk to communities and the environment and provides an effective framework for collaboration to accomplish this.

The end results sought by all stakeholders are healthier watersheds, enhanced community protection, and diminished risk and consequences of severe wildland fires.

The primary goals of the Fire Plan are to:

1. *Reduce Fire Severity and Intensity through Fuels Management*
2. *Enhance Public Safety and Improve Effectiveness of Emergency Services through Infrastructure Improvements*
3. *Reduce Risk to Life and Property through New or Revised Codes, Ordinances and Compliance Programs*
4. *Increase Community Awareness and Involvement to Promote Participation and Voluntary Compliance*
5. *Involve Fire Agencies, County Departments, Public and Private Land Managers, and the Fire Safe Council in Collaborating on County-Wide Goals and Plans to Consistently and Efficiently Implement Mitigation Measures*

New management practices, skills, and tools and the acceptance of stewardship responsibilities are needed to address the changing environment of the wildland-urban interface. New fuels management and fuels reduction programs were determined by the FPC to be of greatest importance towards addressing wildland-urban interface challenges, opportunities, and needs in Nevada County.

THE ROLE OF LOCAL GOVERNMENT

Large areas of once primarily contiguous forestland in Nevada County are increasingly influenced by humans and are surrounded by or intermixed with urban development. These areas of increased human influence and land use conversion make up the wildland-urban interface. Historically, severe wildfires throughout California have demonstrated the complex challenges that the wildland-urban interface presents for the diverse group of people that live and work there. The result of four major fires in Nevada County in the last 16 years brought the wildland-urban interface fire problem to the forefront for the Nevada County Board of Supervisors, spurring the development of this Fire Plan.

How, when and where land can be used, and who makes that determination is one of the most contentious questions faced by any community that is in the wildland-urban interface. Conflicts can arise between newcomers and long-term residents; between private and public land management needs; and between Federal, State, and local governments. Current land-related public policies at all levels of government are contributing to the severity of these conflicts by failing to provide a way for communities to direct and control the increasing demand for land development that results when large numbers of people move into the interface. As long as people have the ability and desire to live in rural and undeveloped areas, land use policies should be designed to minimize the negative impacts such movement has on natural resources in the interface.

Local governments have traditionally held the authority to make land use decisions because, in addition to being seen as more sensitive and responsive to local concerns, they are perceived as having more expertise in implementing fair and efficient land use policy. These local land use policies, however, often have the effect of increasing development and expanding the wildland-urban interface.

The Planning Process

The success of the FPC is a direct result of stakeholders' involvement in the development of the Nevada County Fire Plan. This Fire Plan is the result of a collaborative effort of the FPC and the primary stakeholders in Nevada County. The comments and contributions obtained through the public workshops, as well as several individual Fire Plan presentations to special interest groups, contributed to the goals, objectives and recommendations in this Plan.

Members of diverse stakeholder groups discussing provisions of the fire plan.

Over nine months, the Fire Plan Committee scheduled meetings twice a month which the public attended and contributed valuable input to the process. In addition, the FPC hosted workshops throughout the County including Truckee, Grass Valley and North San Juan.

Observations were compared with industry standards of "best practice". These sources include:

- California Public Resources Code (PRC 4290, 4291)
- Urban-Wildland Interface Code
- California Fire Plan
- Uniform Fire Code
- California Department of Forestry and Fire Protection
- United States Forest Service
- National Fire Protection Association

The FPC reviewed the following components:

- Overview of the Community
- Stakeholders
- Geographic Setting
- Fuels

- New Construction Development
- Weather Conditions
- Fire History
- Roads
- Water Availability
- Community Fire Safe Plans Templates

This information was used to develop specific recommendations for the Fire Plan. The recommendations represent opportunities to minimize potential loss of life and property from wildfire and improve the quality of service provided to the citizens of Nevada County.

While reduction of major destruction of property and loss of life can be achieved partly through proper implementation and enforcement of fire hazard zoning and mitigation laws, it should be noted that there can be no guarantee that a major fire can be prevented from causing major destruction of property or loss of life.

INTENT OF THE FIRE PLAN

The intent of the NCFP is to provide to the Board of Supervisors recommendations to reduce the impacts of wildland fires to life, property and natural resources in Nevada County. Secondary to the intent of reducing the impact of wildland fires, this plan is intended to meet the requirements of the Disaster Management Act of 2000 and the Healthy Forests Restoration Act of 2003 in order to maintain grant eligibility for wildland fire mitigation projects.

The purpose of the Disaster Mitigation Act of 2000:

(1) Establishes a National Pre-Disaster Mitigation Fund for a 3-year period

(2) Governors may recommend 5 or more local communities annually for assistance

(3) Funds are provided for technical assistance to communities

(4) "Small impoverished communities" may receive increased federal shares

(5) Federal Emergency Management Agency (FEMA) to establish an interagency task force to coordinate Federal pre-disaster mitigation

The purpose of the Healthy Forest Restoration Act of 2003:

(1) To reduce wildfire risk to communities, municipal water supplies, and other at-risk Federal land through a collaborative process of planning, prioritizing, and implementing hazardous fuel reduction projects;

(2) To authorize grant programs to improve the commercial value of forest biomass (that otherwise contributes to the risk of catastrophic fire or insect or disease infestation) for producing electric energy, useful heat, transportation fuel, and petroleum based product substitutes, and for other commercial purposes;

(3) To enhance efforts to protect watersheds and address threats to forest and rangeland health, including catastrophic wildfire, across the landscape;

(4) To promote systematic gathering of information to address the impact of insect and disease infestations and other damaging agents on forest and rangeland health;

(5) To improve the capacity to detect insect and disease infestations at an early stage, particularly with respect to hardwood forests; and

(6) To protect, restore, and enhance forest ecosystem components.

WILDLAND FIRE HAZARD MITIGATION

Nevada County interface challenges are complex, compelling, and shared commonly among a diverse group of people who live and work in the interface. Many of these challenges are due to differences in the number of private landholdings, topography, climate, vegetation type, and culture. However, natural hazards, such as wildland fires, are a part of the world around us. Their occurrence is natural and inevitable; still, there is much we can do to control their force and intensity.

"Hazard mitigation" is a technical term for efforts aimed at reducing risks to people and property from natural hazards. It includes both structural measures, such as protecting buildings and infrastructure from the forces of fire, and non-structural measures, such as natural resource protection and wise vegetation management. These activities can target existing development or seek to protect future development by avoiding any new hazardous construction. It is widely accepted that the most effective mitigation measures are implemented at the local government level, where decisions on the regulation and control of development are ultimately made.

The easiest way a community can get serious about hazard mitigation is through the development and adoption of a local hazard mitigation plan. A mitigation plan will ensure that measures to reduce the present and future vulnerability of a community are thoroughly considered before, during, and after the next disaster strikes.

Mitigation planning offers many benefits that include:

- Saving lives and property;
- Saving money;
- Speeding recovery following disasters;
- Reducing future vulnerability through wise development / redevelopment;
- Expediting both pre-disaster and post-disaster grant funding; and
- Demonstrating a firm commitment to improving community health and safety.

More importantly, mitigation planning has the potential to produce long-term and recurring benefits by breaking the repetitive cycle of disaster loss. A core assumption of mitigation is that current dollars invested in mitigation practices will significantly reduce the demand for future dollars by lessening the amount needed for emergency recovery, repair and reconstruction. Further, these mitigation practices will enable local residents, businesses and industries to re-establish themselves in the wake of a disaster, getting the community economy back on track sooner and with less interruption.

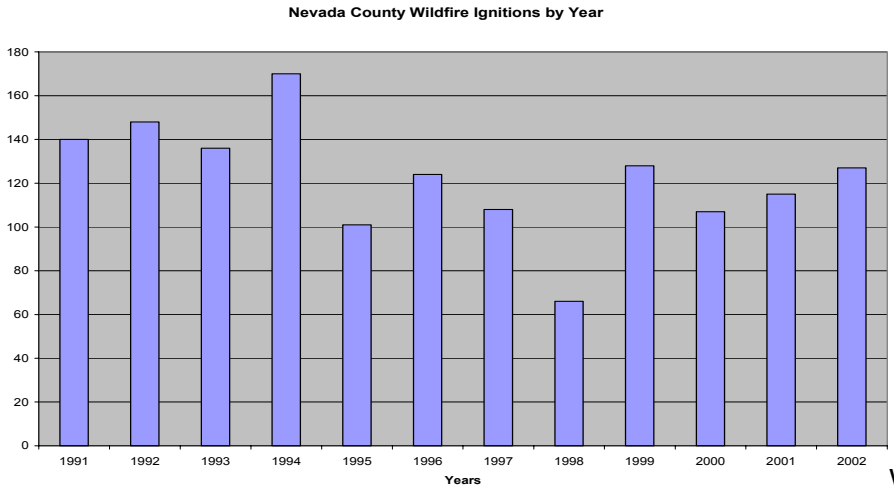
Mitigation planning also leads to benefits that go beyond solely reducing hazard vulnerability. Measures such as the acquisition or regulation of land in known hazard areas can help achieve multiple community goals, such as preserving open space, maintaining environmental health and natural features, and enhancing recreational opportunities.

THE PROJECT AREA

The project area encompasses approximately 978 square miles of diverse and rugged rural lands in the Sierra Nevada foothills of Nevada County, California. Nevada County includes Grass Valley, Nevada City, Lake Wildwood, Alta Sierra, Penn Valley, Rough & Ready, North San Juan, Truckee, Cedar Ridge, Lake of the Pines, and rural areas of the Sierra Nevada foothills. This high fire threat zone is characterized as a classic interface area with significant history of large and damaging wildfires. Nevada County has a diverse bio-system. The western border, located in the Sacramento Valley, contains grass-covered foothills with oak trees. Traveling eastward the landscape changes to a mix of deciduous and conifer forests with a mix of heavy brush. The forests turn to conifer with a brush under-story as the elevation goes high into the Sierra Nevada Range, approaching 8000 feet in elevation. Continuing further east and down the Eastern slope of the Sierras one finds conifers with a brush under-story mix with heavy brush fields, ending at the California/Nevada border with conifer forests and sagebrush.

The area consists of both public and private lands and contains a mix of land uses with a population of approximately 90,000 people and 45,000 housing structures in a wildland-urban intermix setting commonly referred to as the I-Zone. (the urban/wildland interface).

On the private lands within the county, over a recent 12 year period, the county experienced just over 120 wildland fires per year. Lightning caused fires actually account for very few fire starts on private lands as evidenced by the year 2002 in which the county experienced 133 wildland fires with only one



being caused by lightning. History shows that most fires in the county are caused by the accidental, careless or intentional acts of the people who live in or visit Nevada County. Clearly, with the fuels, weather, topography and an increasing population, Nevada County is at significant risk from wildland fire.

Public lands include:

- 175,694 acres in the Tahoe National Forest
- 2,475 acres in the Toyaibe National Forest
- 10,485 acres of other Federal Lands, which include the Bureau of Land Management (BLM), Department of Fish & Wildlife (DF&W), and the Army Corps of Engineers.

In addition, the Nevada Irrigation District controls 8,636 acres, Pacific Gas & Electric 10,882 acres and the State 11,394 acres, which may include, but not be limited to State Parks, California Department of Forestry & Fire Protection (CDF), Department of Fish and Game.

THE WILDLAND FIRE PROBLEM

The fire problem in Nevada County is directly related to the amount of hazardous fuels that have accumulated since the disruption of the natural fire cycles that normally occurred prior to the land use change effects that began at about the turn of the century. It was at this time that the effects of non-native American settlement of the region caused the land use to change and move away from being compatible with the natural fire regimes.

Fire history studies conducted in the Sierra Nevada, southern Cascades, and Klamath mountains point toward pre-European settlement fires (prior to 1849) burning, with mostly low to moderate severities within most of the vegetation types found in the County. Barbour and Majors (1977) and the Sierra Nevada Ecosystem Project (1996) indicate that the grassland areas had an average period between fires of 2-8 years; oak woodlands, 2-8 years; mixed conifer, 5-16 years; east-side pine, 5-16 years; various brush types; 5 to 30 years: and Red Fir, 16-26 years. These vegetation types evolved over time to adapt to these fire cycles. California's Mediterranean climate, dominated by wet winters and hot dry summers with lightning from frequent summer thunderstorms and Native American burning worked in harmony with our fire adapted ecosystems.

The effect on fuels due to these frequent fires was a periodic consumption of relatively light amounts of vegetation and dead material. As a result, these conditions produced fires with mostly low to moderate severities and intensities that generated short flame lengths. Most of the larger trees survived these low to moderate intensity fires. The short flame lengths kept the fire on the ground. Studies and historical observations indicate that very few of the fires before the 1900's, except in small patches, burned into the crowns of the larger Conifers. Based on written accounts from the late 1800's and the very early 1900's, in areas covered by the mixed-conifer vegetation type, approximately 1-10 percent of the larger conifers perished

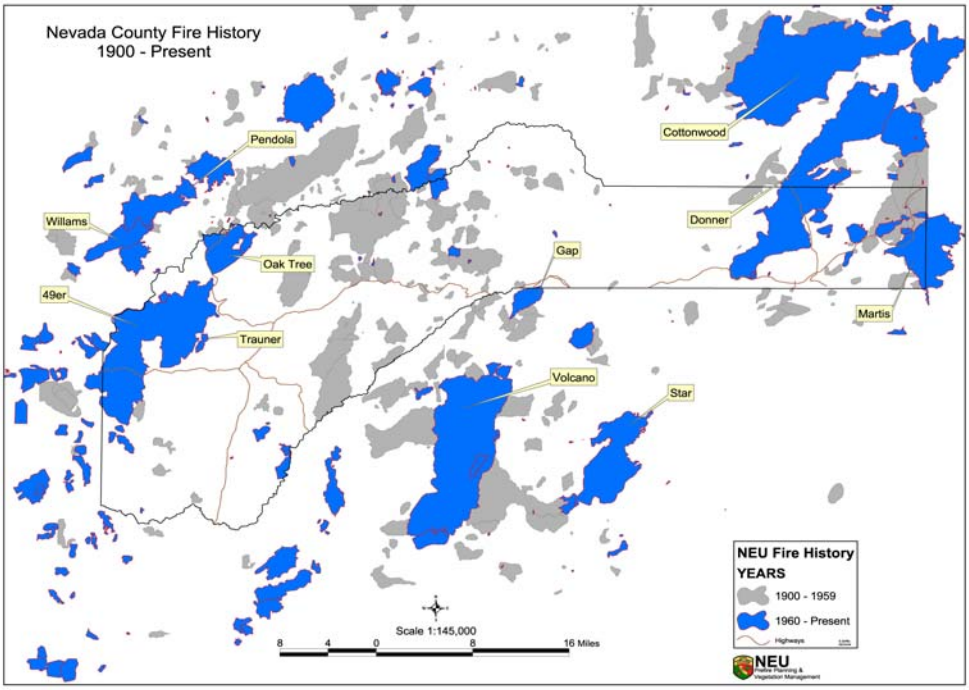
during each fire event. Most of these low intensity fires burned in fuels that were not continuous from the ground into the upper layers of the forest. The periodic fires kept a natural separation from the ground fuels to the upper forest layers.

This natural cycle of periodic fire no longer occurs. Current land uses, i.e. the presence of people and their houses, dictate that wildland fires be suppressed due to risks to life, property, and the environment. A century of virtual elimination of natural and cultural fire has led to a buildup of fuels to today's current unnaturally high levels and has resulted in significantly higher intensity fires that are difficult to suppress. Today, many of our vegetation types have a continuous layer of live growing fuels from the forest floor to the upper tree layers that act as fuel for a wildfire. This, unfortunately, results in larger fires with more damaging effects to life, property, and the environment.

Today, people in Nevada County are attracted to live and build their homes in remote areas, on hillsides, and in and among the native woodlands. There is a misconception held by many of us that today's grasslands, oak woodlands, and forests are "natural" and as such, think if we just keep suppressing fires, these vegetation types will remain the same. This is a grave error. All of our fire adapted ecosystems are complex entities. They are not like a photograph and non-changing over time; they are constantly changing. There is a tremendous amount of growth and in-growth every year. As a result, without periodic fire or treatment, these vegetation types have ever increasing unnaturally high fuel loads that, over time, have created hazardous fire conditions. We now understand that the extreme fire

behavior we are witnessing is a result of the long term interruption of the natural fire cycle.

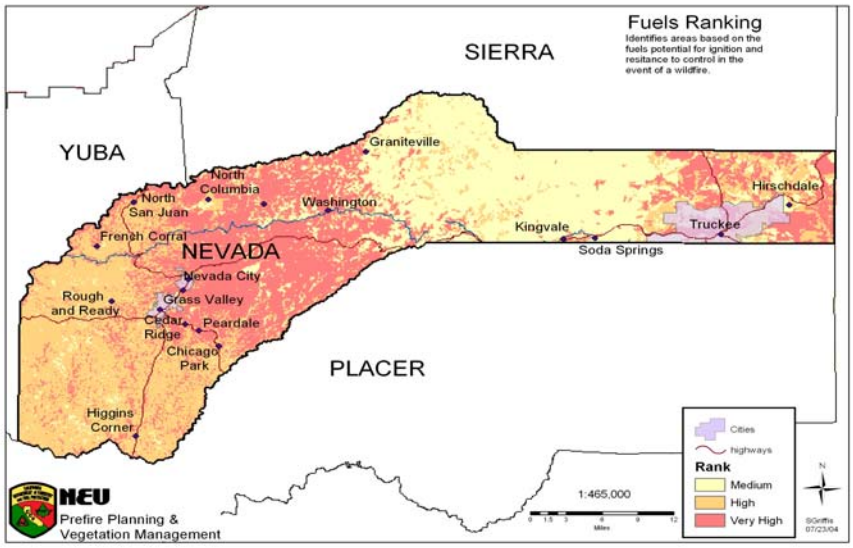
The combination of our topography, climate, and present day fuel conditions produces large, high severity and intense wildland fires; e.g., the Forty-niner fire in September 1988, (33,500 ac/185 homes); the Martis fire, June 2001, (14,500 ac/4 structures); the Trauner fire, August 1994 (500 ac/12 homes); and the Cottonwood, fire, August 1994, (46,800 ac). The Forty-niner fire, the Martis fire and the Trauner fire resulted in over 33 million dollars damage and more than 27 million dollars in suppression cost. The Cottonwood fire cost 12.5 million dollars to suppress.



We can never go back to the natural fire cycles as land use has changed dramatically since the mid-1800's and we now have life and property intermixed within the wildland environment. However, we can, with vegetation management, reduce fuels to those pre-settlement "natural" levels in target areas in and around our communities.

The FPC is acutely aware that the present day wildland fuel condition is the root of the fire problem in Nevada County. It is the reason the conditions and standards addressing roads, water supply systems, fire related codes and ordinances, wildland fire protection

systems, and firesafe education are being addressed through this Plan. The FPC recognizes that all these parameters need to be addressed now.



The FPC understands that all of us living in Nevada County live in fire adapted environments. With this now comes a reality that we, as individual property owners, need to adopt a stewardship responsibility and manage fuel levels to their historical natural levels. We all need to do this not only for our individual property and life safety but, for our community's safety as well. If we all do our part in managing fuels, we can reduce extreme fire behavior and give fire suppression resources a better chance to extinguish fires with less damage to life, property, and the environment.

PRIORITY RECOMMENDATIONS

Over the course of the development of this plan, the Committee, in collaboration with a variety of stakeholders and citizen participants, identified five specific goals to be accomplished through the implementation of 42 different recommendations. In a formalized priority setting process 10 of the 42 recommendations received 53% of the votes cast and were identified as having the most significant impact on "reducing threats to public safety and reducing costs and losses as a result of wildfire in Nevada County" It is suggested by the Fire Plan Committee that after this plan has been accepted by the Board of Supervisors, that the initial implementation efforts be focused on these recommendations. Those top ten are identified here, followed by a complete listing of all the goals, objectives and recommendations. (Refer to Appendix A for a complete prioritization schedule).

GOAL I – FUELS MANAGEMENT

Recommendation 5: The FPC recommends that the Board of Supervisors adopt the Fuel Management prescription (found in Appendix B) as the foundation of an expanded ordinance for providing defensible space around structures

Recommendation 6: The FPC recommends that the Board of Supervisors adopt a fuel management prescription (found in Appendix C) as the foundation for a new ordinance for wildland fuels management on improved and vacant parcels in and adjacent to communities or neighborhoods of ten acres or less and on parcels greater than 10 acres that are immediately adjacent to smaller parcels

Recommendation 7: The FPC recommends that the Board of Supervisors adopt as a fire risk reduction policy the following implementation timeline for education, assistance and compliance programs for fuels management ordinances recommended for adoption

by this Plan. The FPC further recommends that enforcement be used as the method of last resort and that a process of phased enforcement over a number of years be utilized.

Year 1

- Public Education
- Assistance Program
- Enforcement of Defensible Space

Year 2

- Public Education
- Assistance Program
- Enforcement of Defensible Space
- Point Of Sale Disclosure For Developed And Undeveloped Parcels
- Enforcement at Building Permit Issuance

Year 3

- Public Education
- Assistance Program
- Enforcement of Defensible Space
- Point Of Sale Disclosure For Developed And Undeveloped Parcels
- Enforcement at Building Permit Issuance
- General Enforcement Emphasized In Very High Hazard Severity Zones

Year 4

- Continuation Of Year Three

Year 5

- Public Education
- Assistance Program
- Enforcement of Defensible Space
- Point Of Sale Disclosure For Developed And Undeveloped Parcels
- Enforcement At Building Permit Issuance
- General Enforcement Emphasized In High Hazard Severity Zones
- General Enforcement Of Community/Neighborhood Fuel Management

Subsequent Years

- Continuation of Year 5

Recommendation 8: The FPC recommends that resource agencies (CDF, Natural Resource Conservation Service, Resource Conservation District, USFS, and BLM) jointly develop guidelines for fuel management on large parcels. These guidelines must take into account variations based upon fuel types, differing land management objectives and proximity to communities/neighborhoods

Recommendation 11: In recognition of the relationship between fuel reduction and public safety, the FPC recommends that the Board of Supervisors seek a permanent funding mechanism for the provision of chipper services or alternative services at a reduced rate and free fuels management advising services to the landowners of Nevada County. Funding for this program may be entirely or partially offset through grants, but the program is of such value that it should not be grant dependent

GOAL II – INFRASTRUCTURE IMPROVEMENTS

Recommendation 15: The Board of Supervisors direct the Department of Transportation, in cooperation with the County Office of Emergency Services, law enforcement and the fire services to identify county maintained roads not meeting design standards for current or anticipated ADT, and that those roads be prioritized for upgrading as funds become available

Recommendation 16: The FPC recommends that a compliance program be put in place to ensure that private roads required as a condition of approval are maintained over the long term, to the same standard that they were originally approved

Recommendation 19: The FPC recommends that the Board of Supervisors, through the County Fire Marshal's Office, conduct a study for funding a countywide system of strategically located rural fire protection water storage tanks. It is further recommended that this study be funded with Title III funds. (Grant Funds to the County from the USFS under HR 2389) With the successful implementation of this program the FPC recommends the abandonment of the application of individual water storage tank requirements on single-family residences.

GOAL III – COMPLIANCE PROGRAMS

Recommendation 25: The FPC recognizes the continuing constraints that are being placed upon outdoor burning. The Committee recommends that green waste pickup, mulching or composting be the preferred alternative for leaf and pine needle disposal. Outdoor burning should be reserved as a priority for disposal of wildland fuels where no other options are feasible

GOAL V – IMPLEMENTATION OF MITIGATION MEASURES

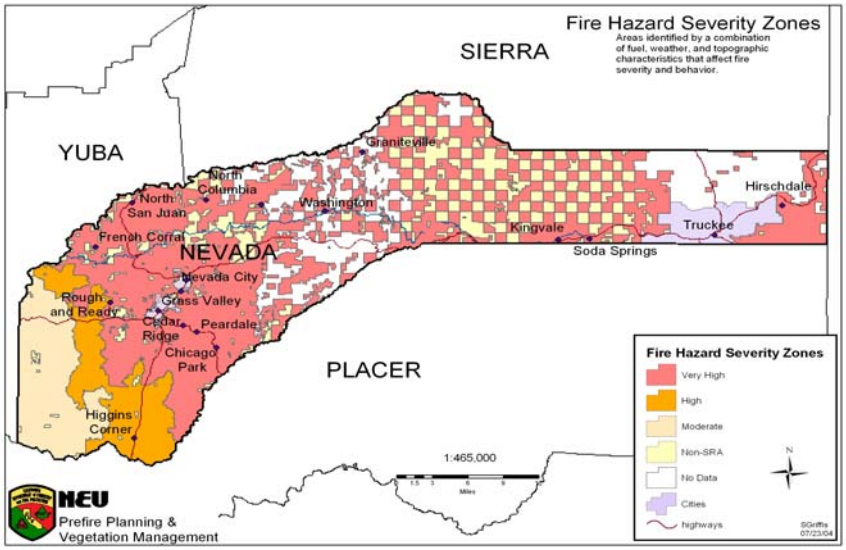
Recommendation 38: The FPC recommends that the Board of Supervisors seek a source of funding for the appropriate staffing of the County Fire Marshal's Office to implement many of the recommendations of this Fire Plan that are most efficiently and effectively provided on a county wide basis. Those programs include the phased in implementation of the fuels management ordinances, the management of the county wide Rural Fire Protection Water Supply System, management of tax funded assistance programs for landowners, providing leadership in producing resource documents for the public and providing training to the fuels management industry

GOALS, OBJECTIVES AND RECOMMENDATIONS

GOAL I - REDUCE FIRE SEVERITY AND INTENSITY THROUGH FUELS MANAGEMENT

PROBLEM STATEMENT

Nevada County contains all the major vegetation types found within the northern Sierra Nevada: annual grasslands, oak savannas, oak woodlands, montane chaparral, both pine and fir dominated mixed-conifer, red fir, sage, and east-side pine. It also contains the rugged topography of the deeply incised westerly flowing drainages and the steep escarpments found on the eastside of the range.



The County also has the typical California Mediterranean climate that produces extreme fire weather conditions from a few days, to many days annually. This combination of topography, climate, and the elimination of the historic fire cycles which previously reduced vegetative fuel accumulations, sets the stage for repeated destructive wildland fires.

OBJECTIVE – A

Improve public awareness and understanding that Nevada County lies within a fire-adapted ecosystem that historically relied upon natural fire or cultural burning by natives to maintain the vegetative fuel accumulations. With fire no longer being an option for fuel management in communities, landowners need to take appropriate steps to mimic the fire regime of the past. It needs to be stressed that there is a direct relationship between high fuel accumulations and high intensity, destructive wildland fire.

Recommendation 1: The FPC recommends that the CDF, USFS, BLM and the Nevada County Superintendent of Schools, and other interested groups, work together to develop a school curriculum based upon the historic nature of the Sierran Forests and the role of cyclical historic fire as nature's way of maintaining vegetative fuels accumulations.

Recommendation 2: The FPC recommends that the USFS and Nevada County Superintendent of Schools implement the concept of a Forest School within the Tahoe National Forest to provide students a laboratory in which to study and understand the dynamics of the Sierra Nevada forest.

Recommendation 3: The FPC recommends that the NRCS, CDF, FSC and Resource Conservation District jointly conduct seminars for landowners on proper stewardship techniques based upon fuel management prescriptions developed for this Plan.

Recommendation 4: In collaboration with the Fire Safe Council, create a Video Lending Library of videos focused on proper land stewardship, proper defensible space, fire prevention, disaster preparedness and application of the various fuel management prescriptions and seek outlets to inform the public of this library.

OBJECTIVE - B

Define the desired future fuel condition based upon a general understanding of historic fuel conditions that primarily promoted low to moderate intensity fires as opposed to high and extreme intensity fires that commonly occur today; and

develop a vegetation management prescription for defensible space around structures.

Recommendation 5: The FPC recommends that the Board of Supervisors adopt the Fuel Management prescription (found in Appendix B) as the foundation of an expanded ordinance for providing defensible space around structures.

OBJECTIVE - C

Develop prescription for defensible community-level fuel modifications on the wildland portion of all parcels 10 acres or less. Require parcels larger than 10 acres which are immediately adjacent to parcels 10 acres or less to provide fuels management to the maximums under this recommendation. Those treatments are to be located in a way that offers the highest level of protection to the community/neighborhood areas.

Recommendation 6: The FPC recommends that the Board of Supervisors adopt a fuel management prescription (found in Appendix C) as the foundation for a new ordinance for wildland fuels management on improved and vacant parcels in and adjacent to communities or neighborhoods of ten acres or less and on parcels greater than 10 acres that are immediately adjacent to smaller parcels. .

Note: See Appendix I for a map displaying parcel sizes 10 acres and smaller and parcels greater than 10 acres

OBJECTIVE - D

Develop a fuels management implementation strategy phased in over 5 years, initially focusing on education and assistance with ultimate implementation through education, assistance and enforcement.

Recommendation 7: The FPC recommends that the Board of Supervisors adopt as a fire risk reduction policy the following implementation timeline for education, assistance and compliance programs for fuels management ordinances recommended for adoption

by this Plan. The FPC further recommends that enforcement be used as the method of last resort and that a process of phased enforcement over a number of years be utilized.

Year 1

- Public Education
- Assistance Program
- Enforcement of Defensible Space

Year 2

- Public Education
- Assistance Program
- Enforcement of Defensible Space
- Point Of Sale Disclosure For Developed And Undeveloped Parcels
- Enforcement at Building Permit Issuance

Year 3

- Public Education
- Assistance Program
- Enforcement of Defensible Space
- Point Of Sale Disclosure For Developed And Undeveloped Parcels
- Enforcement at Building Permit Issuance
- General Enforcement Emphasized In Very High Hazard Severity Zones

Year 4

- Continuation Of Year Three

Year 5

- Public Education
- Assistance Program
- Enforcement of Defensible Space
- Point Of Sale Disclosure For Developed And Undeveloped Parcels
- Enforcement At Building Permit Issuance
- General Enforcement Emphasized In High Hazard Severity Zones
- General Enforcement Of Community/Neighborhood Fuel Management

Subsequent Years

- Continuation of Year 5

OBJECTIVE - E

Provide fuel management consulting service contacts for private property owners of parcels greater than 10 acres in size.

Recommendation 8: The FPC recommends that resource agencies (CDF, Natural Resource Conservation Service, Resource Conservation District, USFS, and BLM) jointly develop guidelines for fuel management on large parcels. These guidelines must take into account variations based upon fuel types, differing land management objectives and proximity to communities/neighborhoods.

Recommendation 9: The FPC recommends that the Resource agencies provide training to fuels management contractors on the guidelines for fuel management on large parcels, and after successful completion of training, placed on a published hiring list.

Recommendation 10: The FPC recommends that the Resource agencies prepare and make available to the public a directory of Agency Advisors, Private Consultants and Fuels Management Companies to assist landowners in being proper stewards of their lands.

OBJECTIVE - F

Develop, organize and fund, a property owner assistance program.

Recommendation 11: In recognition of the relationship between fuel reduction and public safety, the FPC recommends that the Board of Supervisors seek a permanent funding mechanism for the provision of chipper services or alternative services at a reduced rate and free fuels management advising services to the landowners of Nevada County. Funding for this program may be entirely or partially offset through grants, but the program is of such value that it should not be grant dependent.

Recommendation 12: Provide consulting services for private landowners for the restoration and rehabilitation of wildlands impacted by fire, insect, and disease.

Recommendation 13: Create Directory of Assistance of Programs for large landowners i.e. Vegetation Management Program, California Forest Improvement Program, Environmental Quality Incentives Program.

Recommendation 14: Provide financial aid for community based fuel reduction to those landowners who can demonstrate financial need based upon established criteria and who are incapable of accomplishing the fuels management on their own.

GOAL II – ENHANCE PUBLIC SAFETY AND IMPROVE EFFECTIVENESS OF EMERGENCY SERVICES THROUGH INFRASTRUCTURE IMPROVEMENTS

PROBLEM STATEMENT

In order to protect citizens and emergency responders with the essential tools to mitigate disasters, government leaders and citizens alike have, through experience, seen the need to provide a basic infrastructure to allow for a safe and successful outcome to emergencies.

Infrastructure is generally thought of as the foundation from which services are provided and that most citizens benefit equally from their existence. As it applies to the provision of emergency services, infrastructure components are thought to be the responsibility of government agencies and are funded through taxes or the levy of fees.

In the context of the wildland fire problem in Nevada County, the infrastructure includes; the fire agency response organizations, the road system, a system with which to communicate emergency information with the public and a fire protection water supply

system. All of these are critical to a successful emergency response and will be discussed under this goal.

GOAL: II ENHANCE PUBLIC SAFETY AND IMPROVE EFFECTIVENESS OF EMERGENCY SERVICES THROUGH INFRASTRUCTURE IMPROVEMENTS

OBJECTIVE - A

Identify existing County maintained roads not meeting design standards for current or anticipated use as indicated by the General Plan.

Recommendation 15: The Board of Supervisors direct the Department of Transportation, in cooperation with the County Office of Emergency Services, law enforcement and the fire services to identify county maintained roads not meeting design standards for current or anticipated ADT, and that those roads be prioritized for upgrading as funds become available.

OBJECTIVE - B

Ensure that private roads that are required as a condition of approval through the Subdivision Map Act are maintained to the design standard that they were originally required to be built to.

Recommendation 16: The FPC recommends that a compliance program be put in place to ensure that private roads required as a condition of approval are maintained over the long term, to the same standard that they were originally approved.

OBJECTIVE - C

Review private roads that have offers for dedication placed upon them and develop mechanisms for taking those of significant regional importance to public safety into the county maintained mileage program.

Recommendation: 17 The FPC recommends that the DOT in cooperation with County OES, law enforcement and the fire services, conduct an analysis of private roads with offers of dedication on them and identify those of significant regional importance for safe ingress and egress. Once identified, those roads need to be prioritized for inclusion into the county maintained mileage program.

Recommendation 18: The FPC recognizes the current funding issues related to adding new roads to the maintained mileage program and recommends that mechanisms be explored by which to fund bringing roads of regional importance under county maintenance.

OBJECTIVE - D

Develop a countywide rural fire protection water system that provides a cost effective, adequate water supply and seek adoption into county ordinance.

Recommendation 19: The FPC recommends that the Board of Supervisors, through the County Fire Marshal's Office, conduct a study for funding a countywide system of strategically located rural fire protection water storage tanks. It is further recommended that this study be funded with Title III funds. (Grant Funds to the County from the USFS under HR 2389) With the successful implementation of this program the FPC recommends the abandonment of the application of individual water storage tank requirements on single-family residences.

Recommendation 20: Include inspection of required existing water storage facilities when inspecting for fuels management.

OBJECTIVE - E

Develop an emergency public notification system and educate citizens and agencies on intent and use.

Recommendation 21: The FPC recommends that the Board of Supervisors direct the County OES to put in place an automated emergency public notification system which uses the phone system to distribute information to user identified zones. These zones can be identified and the message can be spontaneously constructed in response to each incident. Given that this system is not wildland fire specific, but has application on all types of incidents, the committee feels that it is appropriate to purchase this system with Office of Homeland Security Grant funds. Once in place, the committee recommends that training on its application be given to all managers within public safety. The committee also recommends that the Fire Marshal and OES monitor new methods of distributing emergency information and implement those methods if practical.

OBJECTIVE - F

Create a business environment that encourages the development of a sustainable fuels management industry that assists landowners in their fuels management efforts safely, economically and in a manner consistent with the adopted fuels management prescriptions.

Recommendation 22: The FPC recommends that the resource agencies in Nevada County jointly sponsor workshops for fuel reduction contractors that cover safe operations, the application of the fuel management prescriptions to various fuel types, and fire prevention in their operations. Those contractors attending the workshop would be placed on a resource list and made available to the public.

GOAL III – REDUCE RISK TO LIFE AND PROPERTY THROUGH NEW OR REVISED CODES, ORDINANCES AND COMPLIANCE PROGRAMS

PROBLEM STATEMENT

Modern fire safety codes and standards, and in particular those developed by the National Fire Protection Association (NFPA) trace their origins to the nineteenth-century development of automatic sprinklers. From the beginning, sprinklers performed properly as extinguishing devices; however, they were originally installed in so many different ways that their reliability was uncertain. In March of 1895, a small group of men representing sprinkler and fire insurance interests gathered in Boston to discuss these inconsistencies and develop uniform codes and standards.

Years later, we continue to struggle in our co-existence with wildfire. Annually, thousands of homes are destroyed, and all too often lives are lost, including firefighters. Hundreds of firefighters are injured and thousands of firefighters are exposed to the risks of wildland firefighting.

While reduction of major destruction of property and loss of life can be achieved partly through proper implementation and enforcement of fire hazard zoning and mitigation codes, laws, and ordinances, it should be noted that there can be no guarantee that a major fire can be prevented from causing major destruction of property or loss of life.

The four methods of interface fire hazard mitigation most often associated with increased structure survival are:

- Defensible space around structures
- Landscape level fuel management
- Ignition resistant building construction
- Defensive actions by firefighters during the wildfire exposure.

However, it is important to have reasonable expectations of mitigation measures. A one-third or two-third reduction in historic loss patterns is reasonable with full implementation of both fuel reduction and improved building construction.

GOAL: III REDUCE RISK TO LIFE AND PROPERTY THROUGH NEW OR REVISED CODES, ORDINANCES AND COMPLIANCE PROGRAMS

OBJECTIVE - A

Review and revise, as needed, existing wildland fire related codes and ordinances to address the recognized hazards of building and living in the wildland urban interface.

Recommendation 23: The FPC review Fire Safety related Regulations in the LUDC Chapters 2, 16 and 17 and make recommendations for modifications to the BOS.

Note: The FPC established a separate subcommittee to review the existing Fire Safety Regulations in the Land Use and Development Code (LUDC), Chapters 2, 16 and 17. This committee, made up of fire prevention officers, members of the Building, Planning and Transportation Department, and members of various interest groups within the county, met over a period of three months and prepared suggested changes to the Fire Safety Regulations. Their recommendations have been reviewed and approved by the full Fire Plan Committee. Those changes are displayed in Appendix B and C.

Recommendation 24: The FPC recommends that the Board of Supervisors consider the recommended changes of Code Review Sub-Committee and move to adopt those changes into the LUDC Chapters II, XVI & XVII.

Recommendation 25: The FPC recognizes the continuing constraints that are being placed upon outdoor burning. The Committee recommends that green waste pickup, mulching or composting be the preferred alternative for leaf and pine needle disposal. Outdoor burning should be reserved as a priority for disposal of wildland fuels where no other options are feasible.

Recommendation 26: Provide green waste pickup services county wide or in rural areas schedule community vegetative waste drop off days in those areas not receiving

green waste pickup.

OBJECTIVE B

Consider new fire safety Codes and Ordinances to meet the county's fire safe needs.

Recommendation 27: The FPC recommends that the Board of Supervisors adopt an expanded defensible space ordinance and a neighborhood/community level defensible landscape ordinance in accordance with the recommended fuels management prescriptions developed under Goal #1 and to be implemented consistent with the implementation strategy found in Goal #1

Recommendation 28: The FPC recommends that the Board of Supervisors direct that a review of the fire safety provisions of specific ordinances be conducted a maximum of five years after the implementation of the fuels management ordinances. The intent of the review is to evaluate whether or not significant fuels reduction has occurred that would allow reconsideration of prior regulations of restrictions based upon the risk being reduced in an area previously recognized as having significant wildland fire risk.

OBJECTIVE C

Review and recommend improvement of "same practical effect" process for meeting the intent of the Fire Safety Regulations.

Recommendation 29: The FPC recognizes the value of the 'same practical effect' or 'exception' process for use when the letter of the law may not be practically applied, but the intent of the law may be achieved through application of other measures and suggests that this provision in the code be retained. However, the FPC suggests that the public be better informed on how to enter and use the process.

GOAL IV – INCREASE COMMUNITY AWARENESS AND INVOLVEMENT TO PROMOTE PARTICIPATION AND VOLUNTARY COMPLIANCE

PROBLEM STATEMENT

Nevada County's population is steadily increasing, with many new residents building homes in the *I-Zone. (I-Zone is defined as the urban/wildland interface)* Many of these new homeowners, as well as existing homeowners, are unaware of the dangers surrounding their homes. When people live in a very high fire hazard environment, the human built environs becomes an important factor in predicting the loss of life and property. Wood shake and shingle roofs, narrow roads, limited access, lack of fire-safe landscaping, inadequate water supplies, and poorly planned subdivisions are examples of increased risk to people living with the threat of wildfire.

Community education and awareness programs are an essential means of informing homeowners and citizens how to protect their belongings and loved ones from the next wildland fire that will occur in Nevada County. Much of the education needs to focus on creating and maintaining defensible space around their homes and on managing the vegetative fuels on the remainder of their property. To achieve the desired voluntary compliance, residents need to understand the role of historic natural or cultural fire in the Sierra ecosystem; and as property owners they need to become proper land stewards and implement practices which are intended to mimic the valuable role of natural fire.

The most effective and successful methods for mitigating the impact of wildland fire begin with having local decision makers and community members having a good understanding of the problem and a willingness to take necessary steps to deal with that problem.

OBJECTIVE A

Utilize the Fire Safe Council and community and business associations, i.e. Nevada County Board of Realtors within Nevada County for public education and assistance.

Recommendation 30: The FPC recognizes the value of the Fire Safe Council as a significant contributor of providing fire safe education and information to the residents of the County and supports efforts to seek sustainable, long term funding in order to maintain their programs.

OBJECTIVE B

Develop A Template for A Community/Neighborhood Fire Safe Plan.

Recommendation 31: The Fire Plan Committee has developed a Template for a Community Fire Safe Plan. It is the FPCs intent that this template be used by the various fire protection agencies within the county, in cooperation with the Fire Safe Council, to create community specific fire safe plans. These plans will address evacuation planning, specific high hazard project areas, neighborhood preparedness, safety zones and public education at the local level. It is the intent of the FPC that the community plan in tandem with the county plan will meet the requirement of the Disaster Management Act of 2000. The FPC seeks the support of the Board of Supervisors in this effort.

OBJECTIVE C

Provide on-site consulting for landowners.

Recommendation 32: The FPC recommends that the fire services, resource agencies, and the Fire Safe Council jointly publish a resource directory of public agency advisors, consulting services and private contractors available to the public for education, designing, or completing fuels management projects on private lands.

OBJECTIVE D

Create incentives that encourage voluntary compliance.

Recommendation 33: The FPC recommends that the Fire Marshal's Office continue to

work with the insurance industry to obtain recognition of the fact that the landscape level fuel reduction ordinance, once in effect, will significantly reduce losses from wildland fire paid by insurers in Nevada County. Also, the reduction in risk should translate into lower premium costs to policyholders.

Recommendation 34: The FPC recommends that all agencies and organizations support the Fire Safe Council's effort to create a biomass reutilization center. It is hoped that this effort will result in a monetary value being placed upon removed vegetative fuels that will, at least in part, pay for their removal.

Recommendation 35: The FPC recommends that the Board of Supervisors, in cooperation with the fire services and the Fire Safe Council, publicly recognize individual landowners, communities and public land managers for significant accomplishments in fuels management at the individual parcel level, the community level, and at the landscape level.

OBJECTIVE E

Identify fuel reduction priorities for grant funded projects and public education.

Recommendation 36: The FPC recommends that the fire services and the Fire Safe Council, based on information taken from the Community Fire Plans and the CDF's Nevada-Yuba-Placer Fire Management Plan, identify those areas within the county with significant potential for large and damaging wildfires and prioritize those for grant funded fire risk reduction projects.

OBJECTIVE F

Provide a better understanding to the public and to the architectural and building industry about the benefits and material/design options available with ignition resistant building materials.

Recommendation 37: The FPC recommends that the fire agencies, the building industry and the building material industry cooperate on a high visibility educational

effort on the benefits of using ignition resistant building materials and methods when building in the wildlands of Nevada County, and that this effort emphasize the architectural and appearance similarities between ignition resistant building materials and more readily combustible building materials.

GOAL V – INVOLVE FIRE AGENCIES, COUNTY DEPARTMENTS, AND PUBLIC AND PRIVATE LAND MANAGERS, AND THE FIRE SAFE COUNCIL IN COLLABORATING ON COUNTY-WIDE GOALS AND PLANS TO CONSISTENTLY AND EFFECIENTLY IMPLEMENT MITIGATION MEASURES

PROBLEM STATEMENT

There are numerous fire agencies in Nevada County with various and sometimes overlapping jurisdictions. These agencies each have various plans and programs to reduce the risk and severity of wildland fires. These plans are not necessarily synchronized to a county-wide set of plans. This creates the potential for inconsistency of effort and direction.

Various programs, such as the residential fire protection water supply requirements, are thought by some fire personnel to not be meeting the originating goals. Some agencies have fuel management programs, but these tend to be very limited in scope and difficult to enforce.

Given that whatever plans to further reduce the risk and severity of wildland fires may have substantial costs to community, existing programs need to be reviewed and recommendations made accordingly.

The insurance industry is moving toward factoring fuel loads and local water supplies into their criteria for insurability of homes. The community will be looking to the fire

agencies to assist in providing improved fire risk mitigation in synchronization with the insurance companies' concerns.

GOAL: V INVOLVE FIRE AGENCIES, COUNTY DEPARTMENTS, AND PUBLIC AND PRIVATE LAND MANAGERS, AND THE FIRE SAFE COUNCIL IN COLLABORATING ON COUNTY-WIDE GOALS AND PLANS TO CONSISTENTLY AND EFFECIENTLY IMPLEMENT MITIGATION MEASURES

OBJECTIVE - A

Provide adequate resources to implement Fuels Modification Ordinance, Rural Fire Protection Water Supply System and County Chipper Assistance Program and other programs appropriate for countywide application.

Recommendation 38: The FPC recommends that the Board of Supervisors seek a source of funding for the appropriate staffing of the County Fire Marshal's Office to implement many of the recommendations of this Fire Plan that are most efficiently and effectively provided on a county wide basis. Those programs include the phased in implementation of the fuels management ordinances, the management of the county wide Rural Fire Protection Water Supply System, management of tax funded assistance programs for landowners, providing leadership in producing resource documents for the public and providing training to the fuels management industry.

OBJECTIVE – B

Create a collaborative process for integration of countywide common goals, into each agency's Fire Prevention Program.

Recommendation 39: The FPC recommends that the County Fire Marshal take a lead role in bringing together all agencies, non-profits, county departments and associations which have a statutory or general interest in fire risk reduction or protection of the environment from wildland fire with the intent of creating and maintaining a consistent message to the public regarding fire prevention and risk reduction requirements and activities.

OBJECTIVE - C

Public and Private Lands – The Board of Supervisors should direct the County Fire Marshal to develop a collaborative process with public land managers, open space districts, and land trusts for wildland urban interface fuel management.

Recommendation 40: The FPC recommends that the County Fire Marshal, in cooperation with the local fire agency, work with public land managers, which manage wildlands within and adjacent to communities and who may not have a statutory requirement for compliance with the County's Fire Safety Regulations. The focus of the effort is to see that the vegetative fuels on these lands are managed in a manner similar to that being proposed for private lands in this plan.

OBJECTIVE - D:

Review the effectiveness of the fire plan in a minimum of five years and each five years thereafter.

Recommendation 41: The Fire Plan Committee recommends that the County Fire Marshal report, in May of each year, to the Board of Supervisors on the progress being made towards full implementation of the Fire Plan. And, that every five years the Board of Supervisors should reconvene the Fire Plan Committee for a comprehensive review of the effectiveness of the fire plan. The effectiveness of the plan should be evaluated based upon measures of success developed as a part of the implementation of this plan.

Recommendation 42: The Fire Plan Committee recommends that during the periodic review of the Fire Plan that if there are findings that a landscape wide fuel reduction has occurred, then a review of the Fire Safety Regulations should also occur with the understanding that the wildland fire environment is less hazardous.

APPENDIX – A PRIORITY VOTING

Nevada County Fire Plan - Priority Voting

Yellow = (Top Recommendations)

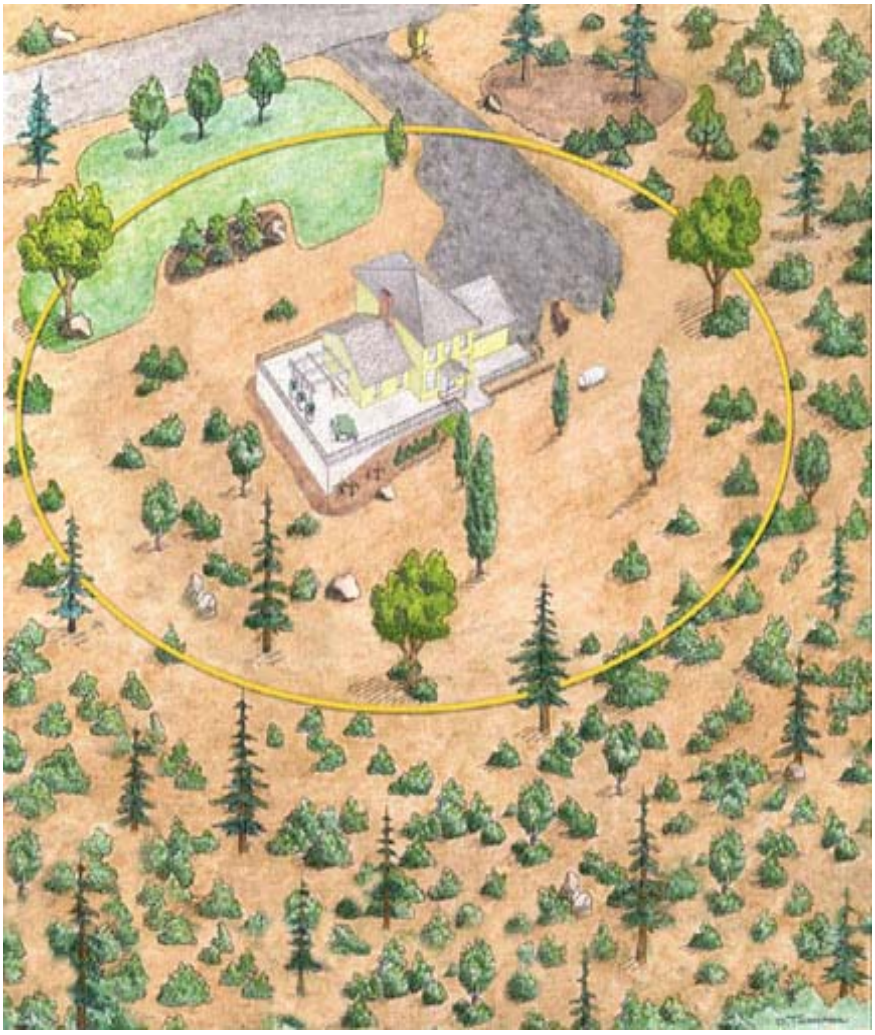
	FPC COMM	GV	NSJ	TRK	CABPRO	FONA	Totals	% of Total
GOAL #1	**33**	**31**	**10**	**15**	**37**	**40**	**166**	**40%**
Recom. 1	0	2	1	2	2	2	9	2%
Recom. 2	0	3	1	0	0	0	4	1%
Recom. 3	0	4	0	0	0	1	5	1%
Recom. 4	0	0	1	1	0	1	3	1%
Recom. 5	12	6	1	2	8	8	37	9%
Recom. 6	6	4	1	3	6	10	30	7%
Recom. 7	4	2	0	1	7	5	19	5%
Recom. 8	0	4	1	0	6	7	18	4%
Recom. 9	0	0	0	0	2	0	2	0%
Recom. 10	0	0	1	0	0	0	1	0%
Recom. 11	10	6	1	5	5	6	33	8%
Recom. 12	0	0	2	0	0	0	2	0%
Recom. 13	1	0	0	1	0	0	2	0%
Recom. 14	0	0	0	0	1	0	1	0%
Goal 2	**15**	**21**	**6**	**3**	**23**	**39**	**107**	**26%**
Recom. 15	6	5	0	0	4	8	23	6%
Recom. 16	7	1	1	1	3	8	21	5%
Recom. 17	0	2	0	0	4	11	17	4%
Recom. 18	0	0	0	0	1	2	3	1%
Recom. 19	1	6	5	0	O	8	20	5%
Recom. 20	0	0	0	0	8	0	8	2%
Recom. 21	0	5	0	1	3	2	11	3%
Recom. 22	1	2	0	1	0	0	4	1%
Goal 3	**23**	**7**	**4**	**13**	**8**	**14**	**69**	**17%**

	FPC COMM	GV	NSJ	TRK	CABPRO	FONA	Totals	% of Total
Recom. 23	1	0	0	0	0	0	1	0%
Recom. 24	0	0	0	4	0	0	4	1%
Recom. 25	3	3	1	4	1	6	18	4%
Recom. 26	3	0	0	4	1	1	9	2%
Recom. 27	8	3	0	0	0	2	13	3%
Recom. 28	5	1	1	1	1	1	10	2%
Recom. 29	3	0	2	0	5	4	14	3%
Goal 4	**9**	**10**	**6**	**5**	**6**	**8**	**44**	**11%**
Recom. 30	1	1	1	0	2	1	6	1%
Recom. 31	0	2	1	1	1	2	7	2%
Recom. 32	0	0	1	0	0	0	1	0%
Recom. 33	4	3	2	4	1	1	15	4%
Recom. 34	2	0	0	0	0	2	4	1%
Recom. 35	1	0	0	0	0	0	1	0%
Recom. 36	0	3	1	0	2	2	8	2%
Recom. 37	1	1	0	0	0	0	2	0%
Goal 5	**6**	**6**	**2**	**1**	**6**	**8**	**29**	**7%**
Recom. 38	6	5	1	0	1	4	17	4%
Recom. 39	0	1	1	0	1	0	3	1%
Recom. 40	0	0	0	1	3	4	8	2%
Recom. 41	0	0	0	0	1	0	1	0%
Recom. 42	0	0	0	0	0	0	0	0%
						Grand Total # of Votes:	**415**	100%

APPENDIX – B DEFENSIBLE SPACE FUEL MANAGEMENT PRESCRIPTION

In addition to the requirements of Public Resources Codes 4290 and 4291, any person owning, leasing controlling, operating or maintaining any structure, as defined by the building code, within the unincorporated areas of Nevada County shall at all times maintain around and adjacent to such structures an effective fuel-break made by removing and clearing away combustible vegetation and material that exists within the defensible space of such structure. The size of the defensible space is defined below. (For the purpose of this prescription, a structure is a building as defined by the building code)

This shall not apply to single specimens or stands of protected species of trees, ornamental shrubbery or similar plants used as ground covers, provided they are maintained and/or irrigated and they do not form a means of rapidly transmitting a fire from the native growth.



The size of the defensible space area is expressed as a distance extending outward from the sides of a permanent structure. The distance varies by the type of wildland vegetation growing near the structure and the steepness of the terrain.

The following matrix defines the Defensible space area based on vegetation type and slope:

VEGETATION TYPE	**SLOPE**		
	0 TO 20%	21 TO 30%	> 31%
GRASS	100 feet	100 feet	100 feet
BRUSH	100 feet	150 feet Down slope	200 feet Down slope
TREES	100 feet	150 feet Down slope	200 feet Down slope

Any person owning, leasing, controlling, operating or maintaining any structure in the unincorporated area of Nevada County shall at all times maintain the defensible space of such building in the following manner:

Understory Fuels

Understory herbaceous and woody fuels over 1 foot in height are to be treated as directed below in order to develop vertical separation from the canopy above and low horizontal continuity of fuels. Plants to be retained shall not be within the drip lines of an overstory tree.

Down fuels and slash between 1 inch and 8 inches in small end diameter and two feet in length or longer shall also be removed so they do not form a means of rapidly transmitting a fire from the native growth.

Rare and endangered species, elderberry plants for example, shall not be removed or treated.

Grasses: Grasses within the Defensible Space area shall be maintained to a height of 4 inches or less by the beginning of and through declared Fire Season each year.

Brush: It is desirable to remove as much brush as possible within the Defensible Space area. However, if individual plants or groups of plants are desired to be left, leave plants with the following characteristics: young plants less than 5 feet tall and individual or groups of plants that are no more that 10 feet wide, with a horizontal separation between plant canopies of 3 times the height of the plants to be retained. Retained plants shall not be within the drip line of mid or overstory vegetation.

Mid-story Fuels

For mid-story fuels, this prescription only considers trees up to the 8-inch diameter class at breast height (dbh) are eligible to be removed. Note that trees larger than 8-inch diameter class may be removed at the owner's discretion if done so in compliance with all applicable local, state, and federal regulations.

Trees 8 inches diameter at breast height and less shall be removed to create horizontal distances between retained tree trunks (boles) a minimum of 20 feet. Larger overstory trees (> 8 inches dbh) do count as trees to be retained and, in order to reduce ladder fuels, shall have brush vegetation within their drip lines removed. Retained trees that are 8 inches dbh and less; that exist within the drip line of larger overstory trees shall have a space a minimum of 20 feet between their trunks. Prune branches off of all retained trees from 8 feet off the forest floor, not to reduce the live crown ratio below 1/2 of the height of the tree.

Rare and endangered species, elderberry plants for example, shall not be removed or treated.

Special Considerations:

Snags

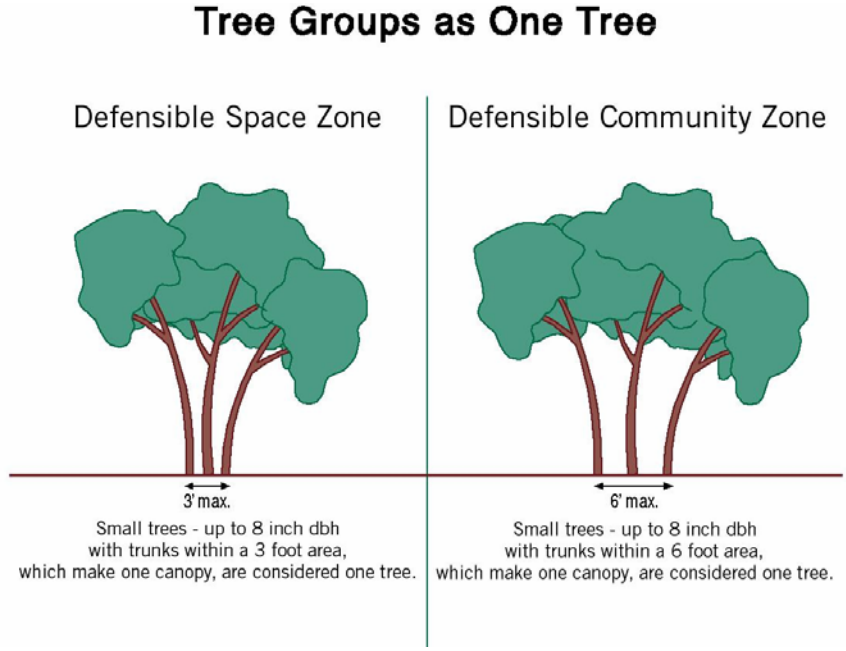
Snags (standing dead trees) are a conduit for fire spread during a wildfire and shall be removed. However, they may also provide excellent wildlife habitat in their natural state. The following is the criteria of when snags may be retained:

- Eighteen inch diameter class or larger and not more than 30 feet in height which, should they fall, are not capable of reaching a road or structure provided there is a separation of least 100 feet between snags.

- Live but defective trees larger than the 8-inch diameter class providing cavities or obvious wildlife use may also be retained.

Tree Groups

Trees up to the 8-inch diameter class at breast height (dbh) with trunks within 3 feet of each other, essentially making one canopy, may be considered one tree in the Defensible Space area. Prune branches off of all retained trees from 8 feet off the forest floor, not to reduce the live crown ratio below 1/2 of the height of the tree. *Adjacent trees shall be removed to create horizontal distances between retained trees a minimum of 20 feet.*



<u>Wetlands and Watercourse and Lake Protection Zones</u>

Live vegetation within functional wetlands is not recommended for treatment. Only dead material within 100 feet of watercourses and lakes with riparian vegetation shall be removed.

Riparian setback areas, as defined by County Code for building construction and leach field installation, will only have dead material be required to be removed.

APPENDIX – C COMMUNITY FUELS MANAGEMENT PRESCRIPTION

In addition to the requirements of Public Resources Codes 4290, 4291, and the Defensible Space requirements above in **(a)**, any person owning, leasing controlling, operating or maintaining any parcel 10 acres or less in size in the unincorporated area of Nevada County shall at all times manage wildland fuels by removing and clearing away combustible vegetation and material that exists on the parcel in accordance with the following prescription.

This shall not apply to single specimens or stands of protected species of trees, ornamental shrubbery or similar plants used as ground covers, provided they are maintained and/or irrigated and they do not form a means of rapidly transmitting a fire from the native growth.

Any person owning, leasing, or controlling any parcel 10 acres or less in size in the unincorporated area of Nevada County shall at all times maintain the parcel in the following manner:

Understory Fuels

Understory woody fuels over 1 foot in height are to be treated as directed below in order to develop vertical separation from the canopy above and low horizontal continuity of fuels.

Down fuels and slash between 1 inch and 8 inches in small end diameter and two feet in length or longer shall also be removed so they do not form a means of rapidly transmitting a fire from the native growth.

For rare and endangered species concerns, elderberry plants shall not be removed or treated.

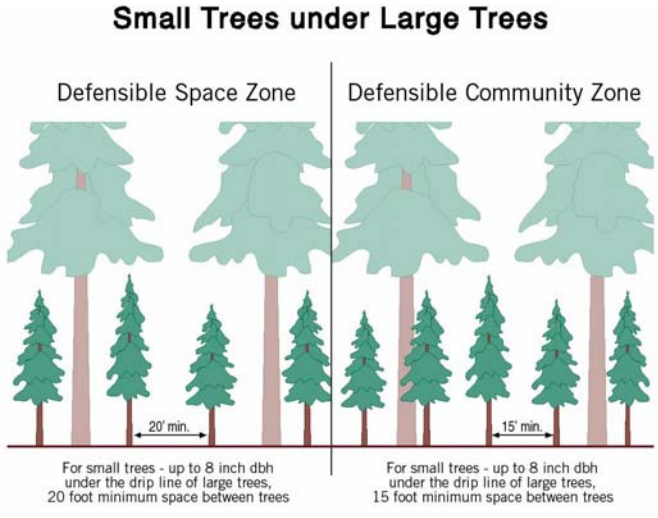
Grasses: For parcels one acre and less in size, grasses within the Defensible Community-level Fuel Modification area shall be maintained to a height of 4 inches or less by the beginning of and through declared Fire Season each year. For parcels greater than one acre in size, grasses within the Defensible Community-level Fuel Modification area need not be treated.

Brush: It is desirable to remove as much brush as possible within the Defensible Community-level Fuel Modification area. However, if individual plants or groups of plants are desired to be left, leave plants with the following characteristics: individual or groups of plants that are no more that 10 feet wide, with a horizontal separation between plant canopies of 1.5 times the height of the plants to be retained. Retained plants shall not be within the drip line of mid or overstory vegetation.

Mid-story Fuels

For mid-story fuels, this prescription only considers trees up to the 8-inch diameter class at breast height (dbh) are eligible to be removed. Note that trees larger than 8-inch diameter class may be removed at the owner's discretion if done so in compliance with all applicable local, state, and federal regulations.

Trees 8 inches diameter at breast height and less shall be removed to create horizontal distances between retained tree trunks (boles) a minimum of 15 feet. Larger overstory trees (> 8 inches dbh) do count as trees to be retained and, in order to reduce ladder fuels, shall have brush vegetation within their drip lines removed. Retained trees that are 8 inches dbh and less; that exist within the drip line of larger overstory trees



shall have a space a minimum of 15 feet between their trunks. Prune branches off of all retained trees from 8 feet off the forest floor, not to reduce the live crown ratio below 1/2 of the height of the tree.

Rare and endangered species, elderberry plants for example, shall not be removed or treated.

Special Considerations:

Snags

Snags (standing dead trees) are a conduit for fire spread during a wildfire and shall be removed. However, they also provide excellent wildlife habitat in their natural state. The following is the criteria of when snags shall be retained:

- Eighteen inch diameter class or larger and not more than 30 feet in height which, should they fall, are not capable of reaching a road provided there is a separation of least 100 feet between snags.

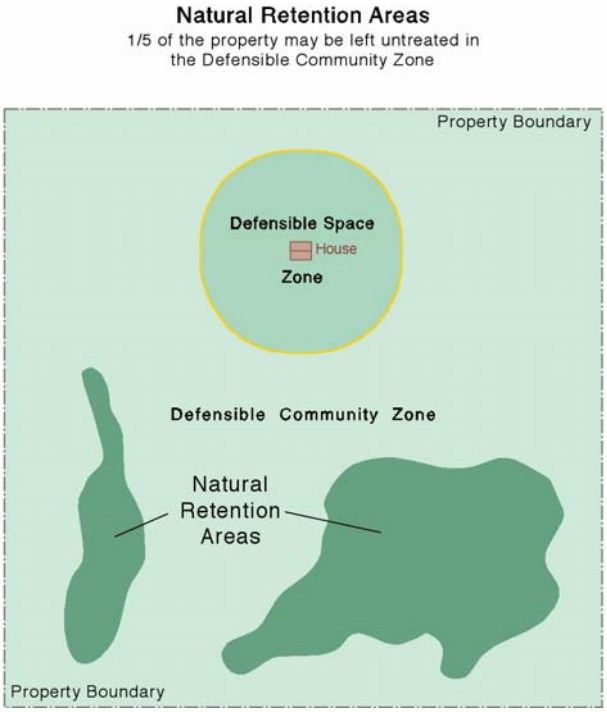
- Live but defective trees larger than the 8-inch diameter class providing cavities or obvious wildlife use may also be retained.

Tree Groups

Trees up to the 8-inch diameter class at breast height (dbh) with trunks within 6 feet of each other, essentially making one canopy, may be considered one tree in the Defensible Community-level Fuel Modification area. Prune branches off of all trees to be retained from 8 feet off the forest floor, not to reduce the live crown ratio below 1/2 of the height of the tree. *Adjacent trees shall be removed to create horizontal distances between residual trees a minimum of 15 feet.*

Vegetation Retention Areas

One 1/5-acre clump of vegetation, including brush and trees, per acre may also be retained in the Defensible Community-level Fuel Modification area providing spread of fire to or from this feature is adequately mitigated. Mitigation measures for this feature include:



a. Adjacent trees to this feature shall be removed to create horizontal distances between retained trees a minimum of 15 feet.
b. It is recommended that these features, when left on the property, be located adjacent to watercourses, lakes, and/or wetlands.
c. The 1/5-acre vegetation retention areas may be combined on parcels larger than 1 acre as long as they do not fall within the defensible space of a structure and do not form a means of rapidly transmitting a fire from the native growth off the parcel.

Wetlands and Watercourse and Lake Protection Zones

Live vegetation within functional wetlands is not recommended for treatment. Only dead material within 100 feet of watercourses and lakes with riparian vegetation shall be removed.

Riparian setback areas, as defined by County Code for building construction and leach field installation, will only have dead material be required to be removed.

Exemption from Defensible Community-level Fuel Modification requirements

Those parcels 10 acres and less that do not have a structure within its boundaries may be considered for an exemption from the Defensible Community-level Fuel Modification requirements under the following condition:

The parcel lies within an area surrounded by larger than 10-acre parcels or of low-density of 10 acre and less parcels where the fuel modification would not provide Community level benefits.

APPENDIX – D **FUELS MANAGEMENT PRESCRIPTION SUMMARY**

Defensible Space – Defensible Community Guidelines Summary

Exempt Materials

- **Any vegetation utilized as landscape which is maintained in a fire safe manner, i.e., irrigated, pruned, free of dead material.**
- **Trees greater than 8-inch dbh (diameter measured at 4-1/2 feet from the ground).**
- **All Rare and Endangered plants.**
- **Snags greater than 18-inch dbh and not more than 30 feet in height which, should they fall, are not capable of reaching a road and have a separation of at least 100 feet between snags.**

	Defensible Space Zone	**Defensible Community Zone**
Application	Pertains to all parcels with structures in the unincorporated portions of the County. Clearance requirements, based on slope and vegetation types up to 200 feet from the structure(s).	The area outside of the Defensible Space zone. Pertains to all parcels ten acres and less within the unincorporated portions of the County.
Grasses	Grasses and weeds to be maintained to less than 4 inches.	Grasses and weeds to be maintained to less than 4 inches on unimproved parcels less than 1 acre.
Brush-Shrubs	Separated from other vegetation by a distance equal to at least 3 times the height of the fuel.	Separated from other vegetation by a distance equal to at least 1-1/2 times the height of the fuel.
Trees	Trees 8 inches dbh and less shall be spaced at least 20 feet apart. Exempt trees (>8 inches dbh), in order to reduce ladder fuels, shall have brush vegetation within their drip lines removed. Retained tress that are 8 inches dbh and less which exist within the drip line of larger overstory trees shall be spaced a minimum of 20 feet between their trunks.	Trees 8 inches dbh and less shall be spaced at least 15 feet apart. Exempt trees (>8 inches dbh), in order to reduce ladder fuels, shall have brush vegetation within their drip lines removed. Retained trees that are 8 inches dbh and less which exist within the drip line of larger overstory trees shall be spaced a minimum of 15 feet between their trunks.

Tree Groups	Trees up to the 8-inch dbh with trunks within 3 feet of each other, essentially making one canopy, may be considered one tree.	Trees up to the 8-inch dbh with trunks within 6 feet of each other, essentially making one canopy, may be considered one tree.
Branches	Any dead woody material and low hanging limbs up to 8 feet above the ground or half the tree's height, whichever is less, shall be removed.	
Natural Retention Areas	Not Applicable	1/5 acre untreated natural retention area per acre can be grouped or spread across the property
Riparian Areas	Independently evaluated based on threat to structure.	Only dead material within riparian areas is required to be removed.
Special Considerations	Not Applicable	For parcels greater than 10 acres, the fuels treatment shall be placed in such a manner to inhibit the spread of high intensity fire to adjoining smaller parcels.

APPENDIX - E RECOMMENDED CHANGES TO LAND USE AND DEVELOPMENT CODE CH. II-SETBACKS

NOTE: **ITEMS IN RED ARE RECOMMENDED CHANGES TO THE LUDC**

ITEMS ~~WITH THE STRIKE THROUGH ARE RECOMMENDED TO BE REMOVED FROM THE LUDC~~

CHAPTER L-II 4.2.5 BUILDING SETBACKS

Sec. L-II 4.2.5 Building Setbacks

A. PURPOSE. Building setbacks are intended to provide open areas around structures for visibility and traffic safety, access to and around structures for safety and convenience purposes, access to natural light, ventilation and direct sunlight, separation of incompatible land uses, space for privacy and landscaping, protection of natural resources, and defensible space against encroaching wildland fire.

1. For the specific purpose of providing defensible space against an encroaching wildfire, Exceptions to Standards as for provided in Sec. L-XVI 2.6 may be used for the application of same practical effect measures.

B. DEFINITIONS.

1. Setback – The distance by which a structure or an addition to a structure must be separated from a parcel line, natural feature, other structure, road, right-of-way, or easement.

2. Yard - An unoccupied space on a parcel on which a structure is situated, or for which a structure is intended, which is open from the ground upward, except as otherwise provided in this Chapter.

3. Yard, Front – A yard measured from the edge of the easement or right-of-way across the front of the parcel between side parcel lines and to a width required by the district in which said parcel is located.

4. Yard, Exterior Side – A yard along the edge of a side street, right-of-way or easement to a width required by the district in which said parcel is located.

5. Yard, Interior Side – A yard along the interior side parcel line of the parcel to a width required by the district in which said parcel is located.

6. Yard, Rear – A yard extending along the rear parcel line of the parcel, or edge of easement or right-of-way on a through parcel, and to a width required by the district in which said parcel is located.

C. STANDARD. Unless otherwise delineated on the zoning district map or otherwise provided in this Chapter, the space within a required setback as established for the base districts in Article 2 shall be unoccupied space open from the ground upward and no structure or addition to an existing structure of any kind shall be permitted within a required setback.

D. NATURAL RESOURCES. Additional setbacks are required for selected natural resources as provided in Section 4.3 Resource Standards.

E. DETERMINING THE FRONT YARD.

1. Interior parcels: The front yard shall be on the side containing the road right-of-way or easement.

2. Corner parcels: The front yard shall be the shorter line abutting the road (except in commercial and industrial districts, in which case the longer line abutting the road shall be considered the front parcel line).

3. Flag Pole Parcels: The front yard shall be the parcel line nearest and perpendicular to the driveway or flagpole portion.

4. Through Parcels: Shall maintain front yard setbacks on both the front and rear parcel lines.

F. MEASUREMENT.

1. Front and Exterior Side: Setbacks from local and fire standard (or emergency) access roads shall be measured from the edge of the right-of-way, or from the centerline of the right-of-way, whichever setback standard is greater, to any portion of the structure.

   Setbacks from arterial and collector roads shall be measured from the edge of the existing right-of-way, or ultimate right-of-way as provided in LUDC Section L-XVII 3.3 Table 2 or as determined by resolution of the Board of Supervisors, whichever setback standard is greater, to any portion of the structure.

2. Interior Side and Rear: Setbacks shall be measured from the side or rear property line to any portion of the structure.

G. EXCEPTIONS TO BUILDING SETBACKS. Building setbacks must be maximized wherever possible; however, exceptions to setback standards are as follows:

1. Parcels that are less than 3 acres in size. Such parcels may reduce setbacks as follows:

"R1", "R2", and "R3" districts shall provide a 5' interior side yard setback and a 20' rear yard setback;

"RA", "AG", "AE", & "FR" districts shall provide a 10' interior side yard setback and a 20' rear yard setback.;

Provided all of the following are satisfied:

a. The site is served by a community or public water supply pursuant to Chapter XVI, Section 4.3 of the LUDC, ~~or, if approved by the California Department of Forestry, & Fire Protection, 2,500 gallons of storage available at 500 gallons per minute.~~

b. The under-floor (subdeck) space of structures, including decks, of combustible construction shall be enclosed on the side or sides within that area between the standard setback and the reduced setback. The enclosure shall be skirting of solid sheathing or equivalent material. Venting of covered areas shall be allowed consistent with the Uniform Building Code. This protection may be omitted for areas where the horizontal supports are greater than 8' from grade.

c. One of the following features is incorporated into that portion the structure proposed within that area between the standard setback and the reduced setback:

1) ~~The undersides of projections beyond the exterior wall including eaves, cantilever balconies and similar overhangs, shall be enclosed with solid sheathing or equivalent material. The undersides of attached decks 8' or taller must similarly be enclosed. Venting of covered areas shall be allowed consistent with the Uniform Building Code.~~

2) The sum of the area of unprotected openings in the exterior wall(s) shall not exceed 25 percent of the total area of the exterior wall(s).

3) Non-combustible materials or materials approved for one-hour fire-resistive construction shall be installed on the exterior side of the wall. The location of the wall shall be approved by the County Fire Marshal or his/her appointed designee.

4) ~~If the proposed construction is located on the uphill side of a slope in excess of 20%, a 4' high, non-combustible wall may be constructed along the length of the exposed side of the structure.~~

5) If a setback easement is recorded on the adjacent parcel, providing the required 60' of defensible space between structures, which allows for modification and maintenance of vegetative fuels.

2. This section deleted. (Ord. #2090, 7/9/02.)

3. Architectural Features/Aboveground Utilities. Such features, including but not limited to cornices, eaves, roof overhangs, canopies, decks and unenclosed porches not more than 18" in height, bay windows, steps, stairways, fire escapes, landing places, fireplaces, propane tanks and heating or air conditioning units, may extend into front and rear yard setbacks by not more than 5'.

4. Site Design Features. The following features are exempt from the setback requirements of this Section:

a. Fences or walls that meet the height limits established in Section 4.2.6 of this Chapter.
b. Retaining walls less than 4' in height above the finished grade.
c. Signs consistent with Section L-II 4.2.12.
d. Underground utilities and septic tanks leach lines.

5. Open-Air Structures Abutting Water. Notwithstanding any other provision of Chapters II and XII of this Code, the following water-use related structures that do not include walls or roofs, may be constructed without complying with the rear and side property line setback requirements as established in this Code for any parcel of real property that abuts a lake, watercourse, or floodplain:

a. Docks & Piers
b. Boat Hoists and Canopies
c. Private boat launch facilities
d. Directional hazard or warning, marina and gasoline signs.

See floodplain-related setback requirements in Section L-II 4.3.10.

6. Clustered Parcel Development, Dwelling Groups, and Planned Developments. Clustered parcels, dwelling groups, and planned developments (within both the base and combining districts) are exempt from the Article 2 setback standards, provided that:

a. The modified setback standards are a part of a conditional use permit and/or subdivision map.

b. Findings for approval ensure consistency with and furthers the purpose of all Article 4.3. Resource Standards

c. The modified standard is recorded as a part of the subdivision map, deed restriction, or other enforceable restriction.

7. Dwellings in Commercial/Industrial. Dwellings proposed in any commercial or industrial district shall provide setbacks as required in the "R2" and "R3" Districts, except when located within a commercial or industrial structure.

8. Swimming Pools. Shall maintain a minimum setback of 10' from any side or rear property line and shall not be permitted within any required front yard setback. Fencing standards for swimming pools are contained in Article 15 of the Nevada County Land Use and Development Code.

9. Properties East of the 10E Range Line. Attached or detached garages and/or carports may be constructed within 1' of the front property line if 20' is maintained from the edge of pavement or traveled way if unpaved.

10. Setback Easements. In order to provide required side and rear building setbacks on properties that cannot otherwise provide those setbacks, a building setback easement may be recorded and recognized on adjacent properties, pursuant to the following standards:

a. Applications for setback easements shall include the written consent of the grantor and grantee property owners.

b. Applications shall include a site plan exhibit for all affected properties, pursuant to Section 5.1 of this Chapter, including a clear delineation of the proposed easement, reflecting the required setbacks for both grantor and grantee properties.

c. Applications for setback easements shall provide clear justification for the need of the easement, providing supporting documentation that other alternatives, including a variance, are not feasible.

d. Setback Easements shall be recognized only after review and approval by the Planning Director who shall make findings that the recording of such easement will not jeopardize the integrity of the neighborhood nor will it conflict with any recorded Conditions, Covenant and Restrictions for all properties.

e. A deed restriction shall be recorded concurrently with said easement in the Nevada County Recorder's Office, noting the purpose and intent of the setback easement and noting that building setbacks shall be measured from the setback easement.

f. Reconveyance or other abandonment of a setback easement without the express approval of the County of Nevada shall constitute grounds for revocation of any permit issued pursuant to this Section.

11. Parking Lots.

APPENDIX-F RECOMMENDED CHANGES TO LAND USE AND DEVELOPMENT CODE CH. XVI-FIRE SAFETY REGULATIONS

NOTE: **ITEMS IN RED ARE RECOMMENDED CHANGES TO THE LUDC**

ITEMS ~~WITH THE STRIKE THROUGH ARE RECOMMENDED TO BE REMOVED FROM THE LUDC~~

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CHAPTER XVI: FIRE SAFETY REGULATIONS

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ARTICLE 1 DEFINITION

Sec. L-XVI 1.1 Purpose

Sec. L-XVI 1.2 Definitions

ARTICLE 1 DEFINITIONS

Sec. L-XVI 1.1 Purpose

For the purpose of carrying out the intent of this Chapter, words, phrases and terms used herein shall be deemed to have the meaning ascribed to them. When not inconsistent with the content, words in the singular number include the plural and words in the plural include the singular. (Ord. #1734, 9/10/91)

Sec. L-XVI 1.2 Definitions

A. ACCESSORY BUILDING: Any building used as an accessory to residential, commercial, recreational, industrial or educational purposes as defined in the California Building Code, 1989 Amendments, Chapter II, Group M, Division 1, Occupancy that requires a building permit.

B. AGRICULTURE: Land used for agricultural purposes as defined in a local jurisdiction's zoning ordinances.

C. BUILDING: Any structure used or intended for supporting or sheltering any use or occupancy that is defined in the California Building Code, 1989 Amendments, Chapter II, except Group M, Division 1, Occupancy. For the purposes of this Article, building includes mobile homes and manufactured homes, churches and day care facilities.

D. CDF: California Department of Forestry and Fire Protection.

E. DEAD END ROAD: A road that has only one point of vehicular ingress/egress, including cul-de-sacs and looped roads.

F. 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. The perimeter, as used in this Chapter, is the area encompassing the parcel or parcels proposed for construction and/or development, excluding the physical structure itself. The area is characterized by the establishment and maintenance of emergency vehicle access, emergency water reserves, street names and building identification, and fuel modification measures.

G. DEVELOPMENT: As defined in Section 66418.1 of the California Government Code.

H. DIRECTOR: The Director of the Department of Forestry and Fire Protection or his/her designee.

I. DRIVEWAY: A vehicular access that serves no more than two parcels with no more than two (2) dwelling units on each, and any number of accessory buildings.

J. DWELLING UNIT: Any building or portion thereof which contains living facilities for not more than one family, including provisions for sleeping, eating, cooking and/or sanitation.

K. EXCEPTION: An alternative to the specified standard, requests by the applicant that may be necessary due to health, safety, environmental conditions, physical site limitations or other limiting conditions such as recorded historical sites to provide mitigation of the problem.

L. FIRE VALVE: See hydrant.

M. FUEL MODIFICATION AREA: An area where the volume of flammable vegetation has been reduced, providing reduced fire intensity and duration.

N. GREENBELT: A facility or land use, designed for a use other than fire protection, which will slow or resist the spread of a wildfire. Includes parking lots, irrigated or landscaped areas, golf courses, parks, playgrounds, maintained vineyards, orchards or annual crops that do not cure in the field.

O. HAMMERHEAD T: A roadway that provides a "T"-shaped, three-point turnaround space for emergency equipment, being no narrower than the road that serves it.

P. HYDRANT: A valved connection on a water supply/storage system having at least one 2 1/2 inch outlet with male National Hose Threads (NH) used to supply fire apparatus and hoses with water.

Q. LOCAL JURISDICTION: Any county, city/county agency or department or any locally authorized district that issues or approves building permits, use permits, parcel maps or tentative parcel maps or has authority to regulate development and construction activity.

R. OCCUPANCY: The purpose for which a building, or part thereof, is used or intended to be used.

S. ONE-WAY ROAD: A minimum of one traffic lane width designed for traffic flow in one direction only.

T. ROADS, STREETS, PRIVATE LANES: Vehicular access to more than two residential parcels; access to any industrial or commercial occupancy.

U. ROADWAY: Any surface designed, improved, or ordinarily used for vehicle travel.

V. ROADWAY STRUCTURES: Bridges, culverts, and other appurtenant structures which supplement the roadway bed or shoulders.

W. SAME PRACTICAL EFFECT: As used in this Chapter, means an exception or alternative with the capability of applying accepted wildland fire suppression strategies and tactics and provisions for fire fighter safety including:

1. access for emergency wildland fire equipment

2. safe civilian evacuation

3. signing that avoids delays in emergency equipment response

4. available and accessible water to effectively attack wildfire or defend a structure from wildfire

5. fuel modification sufficient for civilian and fire fighter safety

X. SHOULDER: Roadbed or surface adjacent to the traffic lane.

Y. STATE BOARD OF FORESTRY (SBOF): A nine member board, appointed by the Governor, which is responsible for developing the general forest policy of the State, for determining the guidance policies of the Department of Forestry and Fire Protection, and for representing the State's interest in federal land in California.

Z. STATE RESPONSIBILITY AREAS (SRA): As defined in Public Resources Code Sections 4126-4127.

AA. STRUCTURE: That which is built or constructed, an edifice or building of any kind, or any piece of work artificially built up or composed of parts joined together in some definite manner.

BB. SUBDIVISION: As defined in Section 66424 of the Government Code.

CC. TRAFFIC LANE: The portion of a roadway that provides a single line of vehicle travel.

DD. TURNAROUND: A roadway, unobstructed by parking, which allows for a safe opposite change of direction for emergency equipment. Design of such area may be a hammerhead/T or terminus bulb.

EE. TURNOUTS: A widening in a roadway or driveway to allow vehicles to pass. Minimum 30' long plus 10' wide with a 25' taper on both ends.

FF. VERTICAL CLEARANCE: The minimum specified height of a bridge or overhead projection above the roadway.

GG. WILDFIRE: As defined in Public Resources Code Sections 4103 and 4104.
(Ord. #1734, 9/10/91)

Ord. #1734, 9/10/91

ARTICLE 2. GENERAL REQUIREMENTS

Sec. L-XVI 2.1	Purpose and Intent of Chapter
Sec. L-XVI 2.2	Scope
Sec. L-XVI 2.3	Project Consultation and Review
Sec. L-XVI 2.4	Violations
Sec. L-XVI 2.5	Inspection Authority
Sec. L-XVI 2.6	Exceptions to Standards
Sec. L-XVI 2.7	Appeals
Sec. L-XVI 2.8	Distance Measurements
Sec. L-XVI 2.9	Maintenance of Defensible Space Measures

ARTICLE 2. GENERAL REQUIREMENTS

Sec. L-XVI 2.1 Purpose and Intent of Chapter

The regulations contained in this Chapter and the provisions in Chapter II (Zoning Regulations), Chapter IV (Subdivision Regulations), Chapter VII (Street Addressing and Naming), and Chapter V (Buildings) and County adopted road standards collectively provide the necessary minimum wildfire protection standards that will minimize public safety effects with the establishment of land uses and buildings within State Responsibility Areas (SRA) lands within Nevada County. These regulations are intended to mitigate effects of wildland fire exposure to such land uses within the State Responsibility Areas and they are further adopted to equal, exceed, or provide the same practical effect contained in the California State Board of Forestry's Fire Safe Regulations adopted on November 7, 1990.

The fire safety regulations contained in these Chapters provide measures for emergency access, street name and building address signage, water reserves for emergency fire use, and vegetation modification.

These regulations are not to be applied retroactively to existing dwelling units as reflected on the official tax rolls as of October 10, 1991, or to any approved and unexpired entitlements (tentative maps, use permits, site plans, building permits, etc.). They shall be applied to all activities set forth in Sec. L-XVI 2.2.
(Ord. #1734, 9/10/91)

Sec. L-XVI 2.2 Scope

Activities affected by this Chapter include, but are not limited to:

A. Subdivisions.

B. Application for mobile home set-up permits and building permits for new construction, not related to an existing structure, filed on or after October 10, 1991.

C. Application for a use permit and all ministerial and discretionary site plans.

D. Road construction, including construction of a road that does not currently exist, or extension of an existing road, not including roads for agricultural or mining use solely on one ownership, and roads used solely for the management and harvesting of wood products.

(Ord. #1734, 9/10/91)

Sec. L-XVI 2.3 Project Consultation and Review

A. All projects subject to this Chapter shall be sent for review and comment to the appropriate fire district, to the California Department of Forestry Director (or designee) and/or any other designated fire official having expertise in wildland fire mitigation. Any conditions imposed by said fire agencies shall not be a substitute for or be less restrictive than the minimum requirements contained in these Chapters of the Nevada County Land Use and Development Code.

B. All projects located on SRA lands shall be reviewed for compliance with all regulations in the Nevada County Land Use and Development Code that provide fire safety requirements. No project may be authorized until the decision-making body or County agent has verified that all appropriate requirements have become a condition of project approval.

(Ord. #1734, 9/10/91)

Sec. L-XVI 2.4 Violations

Any permittee or applicant who violates any provision contained in this Chapter shall be guilty of an infraction pursuant to Sec. L-II 37.5 of the Land Use and Development Code. (Ord. #1734, 9/10/91)

Sec. L-XVI 2.5 Inspection Authority

A. Inspections of the various fire safety regulations on SRA lands shall be completed by the County department under whose jurisdiction the fire safety standard exists and which has inspection authority. The Board of Supervisors may, by Resolution, authorize a different County department, division or officer with fire protection responsibility to perform all or part of such inspection duties.

B. Within local fire district boundaries, inspections established by this Chapter may be performed by district personnel with the approval of the California Department of Forestry and Fire Protection ~~Ranger~~ Unit Chief.

C. All necessary inspections must be performed and approval obtained prior to final occupancy, map recordation or other authorization to occupy as applicable to the use or permit being finalized.

(Ord. #1734, 9/10/91)

Sec. L-XVI 2.6 Exceptions to Standards

A. All exceptions or modifications to the stated standards not contained in Chapter II of the Land Use and Development Code, with the exception of L-II 2.5 Building Setbacks, as they relate only to the provision of defensible space, shall be considered by the planning agency having jurisdiction over the land use entitlement. The planning agency shall consider all the facts associated with the requested exception and request for mitigated practices. In approving same, the hearing body must find that the substituted mean(s) provide the same overall practical effect. Such evidence shall be supported by the Director.

Exceptions or modifications to any portion of Chapter II of the Land Use and Development Code shall be considered pursuant to Article 30 (Area Variances) of Chapter II of the Land Use and Development Code. In addition to the findings required to approve an area variance, any exception or substitution to the stated standards shall have the same practical effect as supported by the Director and by finding of the appropriate hearing body.

B. All requests for exceptions and area variances shall include the following information:

1. The specific Section of the applicable Chapter of the Land Use and Development Code that is being sought to be modified.

2. Material facts and reasons supporting the request.

3. Details of the exception and substitute standard being proposed along with a demonstration that the same practical effect is being achieved.

4. Site plan and/or other supporting documentation showing the location of the exception, proposed modifications and any mitigating factors that contributes to the exception request.

(Ord. #1734, 9/10/91)

Sec. L-XVI 2.7 Appeals

All appeals from this Chapter and any other Chapters of the Land Use and Development Code shall be processed pursuant to Article 33 of Chapter II of the Land Use and Development Code. Appeals may only be filed from actions taken by the appropriate hearing body. No appeal may occur without first having it considered as an exception or an area variance. (Ord. #1734, 9/10/91)

Sec. L-XVI 2.8 Distance Measurements

All specified or referenced distances as to road lengths and vegetative clearing areas are measured along the horizontal ~~ground,~~ unless otherwise stated. (Ord. #1734, 9/10/91)

Sec. L-XVI 2.9 Maintenance of Defensible Space Measures

To ensure continued maintenance of properties in conformance with these standards and measures and to assure continued availability, access, and utilization of the defensible space provided for in these standards during a wildfire, provisions for continued annual maintenance shall be included in the development plans and/or shall be provided as a condition of the permit, parcel or map approval. The persons or entity responsible for maintenance must be designated in the development plans. (Ord. #1734, 9/10/91)

Ord. #1734, 9/10/91

ARTICLE 3 DRIVEWAYS

Sec. L-XVI 3.1 Purpose

Sec. L-XVI 3.2 Private Driveway Construction Standards

Sec. L-XVI 3.3 Exception to Driveway Permit Requirement

ARTICLE 3 DRIVEWAYS

Sec. L-XVI 3.1 Purpose

Proper emergency access providing evacuation of residents and guests and access by emergency response vehicles is of paramount importance in order to assure that the spread of a wildland fire can be retarded, that improvements can be protected from wildland fire and that year round access can be assured for the owners' convenience and access by emergency vehicles. (Ord. #1734, 9/10/91)

Sec. L-XVI 3.2 Private Driveway Construction Standards

All newly constructed residences shall be served by a driveway. Any subdivision proposing that two (2) lots be served by a common driveway shall have the driveway constructed prior to the map recordation. The driveway shall meet the following construction standards as administered by the Building Department through a driveway permit when a grading permit is not applicable:

A. DRIVEWAY GRADE

1. Below 4,000foot elevation, 16% maximum grade without a hard surface. For driveway grades between 16.1% and 20% refer to B.2. for surfacing requirement. For driveway grades between 20.1% and 25% refer to B.3 below. ~~except for distances less than 100 feet when topographic conditions make moderate grade impractical.~~ In no event may such grades exceed ~~20%~~ 25%.

2. Above 4,000 foot elevation, 16% maximum without a hard surface. For driveway grades greater than 16% up to a maximum of 20%, surfacing shall be as described in B.2.

B. DRIVEWAY SURFACE

1. A surface capable of supporting a 40,000 lbs. legally-loaded vehicle as certified by a registered civil engineer or a ~~minimum of 4"~~ Class II aggregate base compacted to a minimum of 4".

2. For driveway portions in excess of 16% up to the maximum 20%, the surface provided in B.1 (above) must be paved with 2" of Asphalt concrete, concrete or an engineered hard surface system.

3. For driveway portions in excess of 20% up to a maximum of 25% the surface must be roughened concrete or an engineered roughened hard surface. The roughened concrete surface must have surface drains in the shape of grooves in the driveway surface running diagonally from side to side to rapidly shed water. These grooves shall be two feet on center a minimum of 1/2 "deep and a minimum ¼" wide. The engineered roughened hard surface must be designed to rapidly shed water.

C. DRIVEWAY DESIGN

1. The vehicle access by a driveway must be built to within 50 feet of the nearest point of each dwelling unit. If the access to a dwelling unit is met through off street access, the distance between the dwelling and street must be easily traversable by pedestrians

2. Width: 10 foot minimum surfaced width with one foot shoulders on driveway grades up to 20%. 12 foot minimum surfaced width with one foot shoulders on driveway grades greater than 20% up to a maximum of 25%.

3. Vertical clearance: 15 feet minimum measured from the outside edge of the shoulder.

4. Horizontal curve radius: 50 foot minimum from centerline. Add 4' of surfacing to the outside of the curve for radii between 50.1 feet and 75 feet. Add 2' of surfacing to the outside of the curve for radii between 75' and 100'. ~~For all driveway radii less than 100', an additional 4' of surfacing shall be provided on said curves.~~

5. Vertical Curve: Any gradebreak of greater than 14% shall be made by means of a minimum 20 ft. radius vertical curve.

6. Back-out maneuvering area in front of parking garages and open parking stalls: 24 feet. This area may be used as a part of the turnaround, but not as required off street parking.

7. For driveways in excess of 400 feet, a turnaround or hammerhead T of 12 percent maximum grade shall be provided within 100 feet of the dwelling and meet~~ing~~ the following standards:

   a. Turnaround: The terminus bulb shall have a minimum 40' radius.

   b. Hammerhead T: The long axis shall be a minimum of 60' and the leg shall be a minimum of 40'.

For driveways less than 400' in length and where 50% or more of that driveway is greater than 16% grade, a turnaround shall be required where the driveway length exceeds 200'
Note: the purpose for this requirement is to minimize the distance a fire engine has to back down a steep driveway recognizing that the air compressor for the braking system may not be able to supply enough air with the engine running at an idle.

8. Turnouts: Driveway lengths exceeding 400', but less than 800' shall have a turnout near the mid-point. Where the driveway exceeds 800', turnouts shall be provided no more than 400' apart.

9 All bridge and culvert portions of the driveway shall support a 40,000 pound legally loaded vehicle.

Roadside vegetation: A fuel modification area shall be provided for a distance of 10 feet on the uphill side of each ~~side of the~~ driveway and 10' for every 10% of topographic slope on the downhill side of the driveway. The fuel modification shall be consistent with the community level fuel management prescription.

10 All appropriate grading, drainage and erosion control shall be included pursuant to Chapter V of the Land Use and Development Code.

11 Lateral slopes must be designed and installed to accommodate a minimum 2% and maximum 4% cross slopes, taking topography into consideration.

D. Gates on Driveways

1. Gate entrances shall be at least two feet wider than the width of the traffic lanes serving the gate.

2. All gates providing access from a road to a driveway or another road shall be located at least 30 feet away from the primary roadway and shall open to allow a vehicle to stop without obstructing traffic on that primary road.

E. Driveway Encroachment onto Private Roads

1. Driveway encroachment onto private roads shall be constructed in accordance with Standard Drawing B-8 'Encroachment Detail – PRIVATE DRIVEWAY' except that encroachment surface shall be equal to or greater than the surfacing of the private road.

(Ord. #1748, 10/22/91; paragraph 9 amended by Ord. #1919, 11/5/96)

Sec. L-XVI 3.3 Exception to Driveway Permit Requirement

A driveway permit pursuant to this Article shall not be required for a driveway completed prior to November 21, 1991, so long as the driveway was constructed under and in compliance with a duly issued grading permit and the driveway as constructed complies with the driveway construction standards of Sec. L-XVI 3.2. (Ord. #1773, 5/12/92)

Ord. #1734, 9/10/91; Ord. #1748, 10/22/91; Ord. #1773, 5/12/92; Ord. #1919, 11/5/96

ARTICLE 4 EMERGENCY WATER SUPPLY

Sec. L-XVI 4.1 Purpose and Intent

Sec. L-XVI 4.2 Application

Sec. L-XVI 4.3 General Standards

Sec. L-XVI 4.4 Standards for Hydrants/Fire Valves

ARTICLE 4 EMERGENCY WATER SUPPLY

Sec. L-XVI 4.1 Purpose and Intent

To provide available and accessible emergency water for wildfire protection on SRA lands, in specified quantities and locations to attack a wildfire or defend property from a wildfire. Such emergency water may be provided in a fire agency mobile water tender or naturally occurring or manmade containment structure, as long as the specified quantity is immediately available. (Ord. #1734, 9/10/91)

Sec. L-XVI 4.2 Application

A. Subdivisions, use permits, administrative development permits, site plans. The provisions of this Article shall apply when new parcels, use permits, or site plans are approved. The water supply requirements shall be met ~~shall be available on-site~~ prior to map recordation in the case of subdivisions, or building construction in the case of use permits or site plans.

B. ~~Remote single-family residential buildings. The provisions of this Article shall apply when building permits are approved for residential structures that are in excess of eight (8) miles from the closest fire department water tender and which otherwise do not meet the requirements of Sec. L-XVI 4.3. The stored amount of water available for fire protection shall be 2500 gallons, exclusive of domestic requirements. The water shall be available on-site at the time of the framing inspection. Construction of the water storage facility shall be in compliance with Examples 1, 2 and 3.~~

Note: This section is proposed for repeal only with successful implementation of the Rural Fire Protection Water Supply System>

(Ord. #1734, 9/10/91)

EXAMPLE 1: ON FILE WITH THE BOARD OF SUPERVISORS

EXAMPLE GRAPHICS NOT YET AVAILABLE

EXAMPLE 2: ON FILE WITH THE BOARD OF SUPERVISORS

EXAMPLE GRAPHICS NOT YET AVAILABLE

EXAMPLE 3: ON FILE WITH THE BOARD OF SUPERVISORS

EXAMPLE GRAPHICS NOT YET AVAILABLE

Sec. L-XVI 4.3 General Standards

Each subdivision shall install a water supply system as provided in the following chart. All emergency water to meet fire flow requirements is in addition to the domestic water source.

LAND USE	DENSITY AC/DU	SYSTEM TYPE	FIRE FLOW REQ. (GPM)	HYDRANT SPACING
SINGLE-FAMILY	0-.5	Public (Note 1)	1,000	500
	.5-1.0	Public (Note 1)	~~500~~ 1000	500
	1.01-1.5	Public (Note 1)	~~500~~ 1000	1,000
	1.51-3	Public (Note 1)	~~500~~ 1000	1,000
		Community (Note 2)	500	1,000
	3-5*	Public (Note 1)	~~500~~ 1000	2,000
		Community (Note 2)	500	2,000
		Class 8 (Note 3)		1 mile
	5+*	Public (Note 1)	~~500~~ 1000	2,000
		Community (Note 2)	500	1 mile
		Class 8 (Note 3)	500	1 mile
MULTIPLE-FAMILY DWELLINGS		~~Refer to Sec. 10.301(c) of 1988 Uniform Fire Code~~ Refer to the currently adopted version of the Calif. Fire Code		
COMMERCIAL		~~Refer to Sec. 10.301(c) of 1988 Uniform Fire Code~~ Refer to the currently adopted version of the Calif. Fire Code		
INDUSTRIAL		~~Refer to Sec. 10.301(c) of 1988 Uniform Fire Code~~ Refer to the currently adopted version of the Calif. Fire Code		

* NOTE: Subdivisions using Class 8 may require installation of strategic water supply with storage volumes based on the formula for community water systems.

1. PUBLIC WATER SYSTEM - Nevada Irrigation District or other public water purveyor standards.

2. COMMUNITY WATER SYSTEM - Centrally located water storage system maintained by property owners.

   In no case shall the water storage quantity be less than 4000 gallons regardless of the number of parcels served. All such systems shall be designed to avoid contamination of potable water supplies in accordance with Environmental Health Standards.

   The minimum water supply shall be determined by using the Formula Q=1500F when Q=quantity of water storage and F=the number of units or parcels served.

3. CLASS 8 - Those areas within a fire jurisdiction where the Insurance Services Office (ISO) has issued a dwelling Class 8 rating. Typically within five miles of a fire station and within eight miles of a water tender.

   In no case shall the water storage quantity be less than 4000 gallons regardless of the number of parcels served. All such systems shall be designed to avoid contamination of potable water supplies in accordance with Environmental Health Standards.

   The minimum water supply shall be determined by using the Formula Q=1500F when Q=quantity of water storage and F=the number of units or parcels served.

(Ord. #1734, 9/10/91)

Sec. L-XVI 4.4 Standards for Hydrants/Fire Valves

When the fire protection water supply consists of a static water source, a dry hydrant connection shall be provided for fire department use. A dry hydrant connection is an arrangement of pipe permanently connected to a water source that provides a ready means of accessing a water supply for firefighting purposes and that utilizes the drafting (suction) capability of fire department pumpers.

General requirements for the installation of a dry hydrant:

1. The dry hydrant shall be readily accessible by fire apparatus and shall be located not less than 50 feet or more than 500 feet from the structure intended to be

served by the system.

2. The dry hydrant shall be located within 10 feet of the driveway or other approved access roadway.

   (a) If the dry hydrant is located along the driveway serving a single structure or along the primary access roadway serving multiple structures, the connection shall be located in such a manner that fire apparatus can utilize the hydrant without obstructing the access roadway.

   (b) An approved turnout, consisting of a 10-foot wide driving surface with a 25-foot taper on either end (total length of 75 feet), shall be provided when the dry hydrant is placed adjacent to a single lane access roadway or where fire apparatus using the hydrant would obstruct the access roadway.

   (c) All flammable vegetation within 10 feet of the dry hydrant shall be removed.

3. Piping supplying the dry hydrant shall be not less than 4 inches in diameter.

   (a) If PVC piping is used, the piping shall be Schedule 40, or better.

      1. Exposed PVC piping shall be primed and painted with epoxy paint or otherwise protected from damage that could be caused by exposure to sunlight in an approved manner.

      2. If PVC piping is used for the dry hydrant, an approved brace or support shall be provided to support the connection

   (b) If galvanized steel piping is used, the piping in contact with the soil shall be wrapped with 2 layers of Mil Tape or otherwise protected from corrosion in an approved manner.

4. The connection for the dry hydrant shall consist of a 4-1/2 inch threaded male fitting with National Standard Threads. The connection shall be provided with an approved cap to protect the threads and to protect the water supply from contamination.

5. The connection for the dry hydrant shall be located between 18 inches and 36 inches above the finished grade.

6. If the dry hydrant connection is located lower than the water source, such as a storage tank, an approved valve at the base of the dry hydrant shall be provided to control the water flow.

   (a) Provisions shall be made to drain any standing water from the piping above the valve.

(b) Any exposed piping that contains water shall be protected from freezing in an approved manner.

7. Closed storage tanks shall be vented in an approved manner.

(a) Vent piping shall be equal to or larger than, the size of the piping serving the dry hydrant.

(b) The vent opening shall be screened with an approved material to prevent obstruction of the vent or contamination of the water supply.

8. When the water supply consists of an open water source such as a lake, reservoir, or pond, the following shall apply:

(a) If the distance between the water source and the dry hydrant is greater than 100 feet, a minimum 6-inch piping shall be used to supply the dry hydrant.

(b) The piping between the base of the dry hydrant and the water source shall be buried at least 3 feet below the finished grade.

(c) The end of the piping located in the water source shall be located a minimum of 2 feet above the bottom surface of the water source and a minimum of 2 feet below the lowest recorded level of the top surface of the water source.

(d) The end of the piping located in the water source shall be fitted with a commercially manufactured dry hydrant strainer, a hand-made strainer consisting of a capped section of pipe with 1000 holes that are 5/16 inch in diameter drilled along the length, or equal.

(e) The distance between the lowest recorded level of the water surface and the connection for the dry hydrant shall not exceed 10 vertical feet.

9. Approved signs indicating the size, location, and access travel route to a fire protection water storage facility shall be provided in such a manner that all pertinent information relating to the facility is clearly identified.

(a) All signs shall be mounted on noncombustible posts, shall be a minimum of 18” by 24” in size, and shall be a minimum of 0.080 gauge metal.

(b) The sign(s) shall have a reflective blue background with a minimum of 3” high reflective lettering that sharply contrasts with the background.

(c) If the water supply consists of a fixed amount, such as an underground or aboveground storage tank, the sign shall be located on or adjacent to the facility. The sign shall be clearly visible and legible from the access roadway

serving the facility. The lettering on the sign shall be arranged as shown in the following example:

6,000 Gallon
Fire Protection
Water Supply

(d) If the water storage facility consists of a reservoir, pond, or similar facility, at least one sign shall be provided at the intersection of the primary access roadway serving the area and the access roadway serving the water storage facility. This sign shall be located in such a manner that it is clearly visible and legible from the primary access roadway serving the area. Additional signs shall be provided along the access roadway serving the water storage facility if the route of travel is not easily recognized. The lettering on the sign shall be arranged as shown in the following example:

Access to
Fire Protection
Water Supply

A. ~~The hydrant shall be located 18" above grade in a turnout/turnaround or other approved location, not less than 50' from any building. Flammable vegetation shall be removed within 8' of the hydrant.~~

B. ~~The hydrant shall be: (1) brass with 2-1/2 inch National Hose male thread with cap for pressure and gravity flow systems and 4-1/2 inch for draft systems; or (2) any hydrant approved by the American Water Works Association. Such hydrants shall be an insulated wet barrel or dry barrel as required by the delivery system. It shall have suitable crash protection if required by the local jurisdiction.~~

C. ~~Signing of Water Sources - Each hydrant/fire valve or access to water shall be identified as follows:~~

1. ~~If located along a driveway, a reflectorized blue marker, with a minimum dimension of 3 inches shall be located on the driveway address sign and mounted on a fire retardant post, or~~

2. ~~If located along a street or road, it shall be marked/signed to the satisfaction of the fire agency with fire protection responsibility or the hydrants located along state highways shall be as specified in the State Fire Marshal's Guidelines for Fire Hydrant Markings Along State Highways and Freeways.~~

(Ord. #1734, 9/10/91)

ARTICLE 5. FUEL MODIFICATION

Sec. L-XVI 5.1 Purpose and Intent

Sec. L-XVI 5.2 Disposal of Flammable Vegetation and Fuels

Sec. L-XVI 5.3 ~~Fuel Modification/Greenbelts~~ Management of Vegetative Fuels

ARTICLE 5 FUEL MODIFICATION

Sec. L-XVI 5.1 Purpose and Intent

To reduce the intensity of a wildfire by reducing the volume and density of flammable vegetation, these areas shall provide (1) increased safety for emergency fire equipment and evacuating civilians; and (2) ~~a point of attack or defense from a wildfire;~~ and significant reduction in fire intensity resulting in lower resistance to fire control efforts; and (3) ~~strategic siting of fuel modification and greenbelts.~~ a reduction in costs and losses from wildland fire. (Ord. #1734, 9/10/91)

Sec. L-XVI 5.2 Disposal of Flammable Vegetation and Fuels

Disposal of flammable vegetation and fuels caused by site development and construction, road and driveway construction and fuel modification, including chipping, burying, burning or removal to a landfill site approved by the local jurisdiction, shall be completed prior to completion of road construction or final inspection of a building permit or subdivision, whichever is appropriate. (Ord. #1734, 9/10/91)

Sec. L-XVI 5.3 Fuel ~~Modification/Greenbelts~~ Management

As a condition of approval of any Tentative or Final Subdivision Map, the applicant shall submit to the County Fire Marshal a vegetative fuels management plan that complies with the provisions of the County Ordinance describing the Landscape Level Fuel Management Prescription. The fuels management plan shall be implemented prior to the recordation of any map.

~~As determined by the Director, a fuel modification zone or greenbelt may be required along all or some subdivision exterior boundaries. All subdivisions in excess of 10 lots with a density of one residence per 1-1/2 acres or greater shall provide greenbelts or fuel modification areas as a separation between wildland fuels and the lots within the subdivision. In all cases, the minimum width of a greenbelt or fuel modification zone shall be determined by the Director.~~

~~Depending on the fire hazard severity classification and other factors, those subdivisions providing a greenbelt may reduce or otherwise eliminate the setbacks required in the base zoning district in Chapter II of the Land Use and Development Code requiring 30" to interior side and rear yards. The less setbacks provided for may be used in lieu of the 30 feet. Such reduction or elimination of setbacks must be determined as part of the review of the tentative map and shall be incorporated as notes on the final map.~~
(Ord. #1734, 9/10/91)

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APPENDIX-G RECOMMENDED CHANGES TO LAND USE AND DEVELOPMENT CODE CH. XVII-ROAD STANDARDS

NOTE: **ITEMS IN RED ARE RECOMMENDED CHANGES TO THE LUDC**

ITEMS ~~WITH THE STRIKE THROUGH ARE RECOMMENDED TO BE REMOVED FROM THE LUDC~~

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Sec. L-XVII 3.4 Design Geometrics

A. DESIGN WIDTHS AND SPEEDS

The minimum design widths, speeds and other major design criteria for road construction are as follows in the chart on the following page. Further details are provided in the Standard Drawings to be adopted by resolution to supplement this Chapter.

TABLE II

NEVADA COUNTY STANDARD SPECIFICATION SUMMARY CHART

Functional Classification	Min. Right of Way Width Note 4	Standard Lane Width	Standard Shoulder Width	Fuel Mod. Zone Width	Standard Design Speed	Standard Max. Grade Below 3500'	Standard Max. Grade Above 3500'	Required Surface
Minor Arterial (Urban)	60-100'	12'	Varies	10' min.	35 mph	10%	8%	Note 1,6
Minor Arterial (Rural)	60'	12'	6'	10' min.	35 mph	10%	8%	Note 1,6
Collector (Urban)	60-100'	12'	Varies	10' min.	35 mph	10%	8%	Note 1,6
Major Collector (Rural)	60'	12'	4'	10' min.	35 mph	10%	8%	Note 1,6
Minor Collector (Rural)	60'	12'	4'	10' min.	35 mph	10%	8%	Note 1,6
Local Class 3 Over 2000 ADT	60'	12'	4'	10' min.	35 mph	10%	8%	Note 1,6
Class 2 401-2000 ADT	50'	10'	4'	10' min.	25 mph	10%	8%	Note 1,5,6
Class 1 101-400 ADT	50'	9'	2'	10' min.	20 mph	10%	8%	Note 1,5,6
Fire Standard Access Road Up to 100 ADT Two-Way One-Way	50' 34'	9' 10'	1' 2'	10' min. 10' min.	20 mph 20 mph	16% 16%	16% 16%	Note 2,5,6 Note 2,5,6
Driveway								Note 3

Note 1: All structural sections for this classification based on future year traffic and estimated percentage of that traffic which will be heavy vehicle

Note 2: Surface capable of supporting a 40,000 lb. vehicle with a minimum 4" A.B. compacted to 95% with sub-grade compacted to 90%

Note 3: Driveway standard specifications are contained in Chapter XVI of the Nevada County Land Use and Development Code, Fire Safety Regulations

Note 4: Intersection channelization may increase the minimum right of way at spot locations

Note 5: If approved by the Engineer, all grades over 10% will require minimum 2" A.C. surface

Note 6: A Vertical Clearance of 15 ft shall be provided over all roads including required shoulders.

B. ROADSIDE FUEL MODIFICATION

Roadside fuel modification shall be as described in LUDC Sec. L-XVI 3.2 C.8.

APPENDIX – H GLOSSARY OF TERMS

Acre foot: The volume of water, equal to one acre covered by one foot of water or 43,560 cubic feet. One acre-foot equals 326,000 gallons or enough for two families for one year.

Aspect: The direction toward which a slope faces *(e.g.,* south facing or *north* facing)

Brush or Shrub Separation: The rule of "1 1/2 to 3 x height" applies to the horizontal separation of all brush or shrub plants within each Fire-Safe zone. Separate each plant by a minimum of this distance.

Chimney: A topographic feature, usually in a V shaped depression, creek bed, or canyon running a vertical direction from the base to the top of a ridge. These features may act as a "chimney" to conduct and direct heat and flame toward the ridge top. Structures situated in such areas may be at greater risk from on-coming wildfire.

Conifers [softwoods]: Sugar pine, ponderosa pine, digger pine, Douglas fir, and incense cedar.

Crown: The upper part of a tree or other woody plan carrying the main branch system and foliage.

Crown Separation: The distance from the outer edge of one tree crown from the adjacent tree crown.

Decadent: In regards to vegetation, it refers to plants of declining vigor and deteriorating health.

Defensible Space: That area which lies between a house and an oncoming wildfire where the vegetation has been modified to reduce the means of rapidly transmitting fire from native or ornamental growth to any building or structure. Defensible space may also aid firefighters by providing a less dangerous area from which to defend a structure. Aggressive defensible measures may provide stand-alone survival of property without the benefit of active fire suppression measures.

Defensible Space Zone: An area in which the vegetation has been modified to reduce the rapid transmission of heat and flame, generally from an approaching wildfire toward residential structures or other buildings. This zone may be as little as 100' to as much as 200' feet or more depending on vegetation, slope, and other natural influences.

Drip Line: The outer edge of the tree crown described as "that area where water would shed off the tree."

Fire environment: The surrounding conditions, influences, and modifying forces of topography, fuel, and weather that determine fire behavior.

Fire Fuel: Any combustible material. As related to wildfire, fuels typically refer to living or dead vegetation, and duff. Structures too, are a component, and contribute to the wildland fuel mix!

Fire Fuel Load: The volume or mass of the vegetation, in weight and density.

Fire Fuel Reduction: A process of thinning and separating the horizontal and vertical arrangement of the vegetation within a prescribed Defensible Space Zone to reduce the transmission of fire from the wildland to the buildings.

Fire Resistive Vegetation: All plants are flammable, but fire resistive plants burn at relatively low intensities, with a slow rate of spread and with short flame lengths. The following are some characteristics of fire resistive vegetation:

- Growth with little or no accumulation of dead vegetation, either on the ground or standing upright.
- Non-resinous plants or those having low sap or resin content.
- Low total volume vegetation; grass as opposed to shrubs or brush, as opposed to trees.
- Broad leaf deciduous trees as opposed to those with needle or blade leaves.
- Plants with high live fuel moisture.
- Plants with heavy stem and limb structure.

Flash fuels: Small size fuels *(1/2 inch in diameter or smaller)* loosely arranged such as grass, pine needles, etc.

Fuelbreak: A strategically located wide block, or strip, on which a cover of dense, heavy, or flammable vegetation has been permanently changed to one of lower fuel volume or reduced flammability, allowing for safe access by firefighters. A fuelbreak is usually constructed on a ridge and the fuelbreak width varies with the height of the heavy fuels. A *shaded fuelbreak is* a fuelbreak located in forest or woodlands, where the trees are pruned up to 20', and the intermediate shrubs, brush, and dead fuels are removed and replaced with grasses and forbs.

Fuel Loading: Refers to the amount of vegetation, live and dead, available for burning in an area and is commonly measured in tons (dry weight) per acre.

Hardwoods: Oaks - blue oak, black oak, live oak; alder, willow, madrone, and cottonwood.

Ladder Fuel: Or Fuel Ladder. Fuels that provide vertical continuity between strata, Fire is able to move from surface fuels (grass/brush) into tree crowns with relative case.

Litter: A surface layer of loose organic debris in forests, consisting of freshly fallen or slightly decomposed organic materials such as leaves, pine needles, and twigs.

Native Plant Species: Plants regenerated from seed sources indigenous to the same geographic place.

Ornamental Specimen: Single specimens of trees, ornamental shrubbery, or similar plants, which are used as ground cover, are generally acceptable if they do not form a means of rapidly transmitting fire from native growth to any building or structure.

Overstory: Those portions of the trees in a forest stand forming the upper tree crown cover.

Pyrophytes: Plants that ignite readily and burn intensely. Pyrophytes are typically:

- Blade or needle leaf evergreens
- Stiff, woody, small or fine lacey leaves.
- Leaves or wood containing volatile waxes, fats, terpenes or oils. (Crushed leaves have strong, aromatic odors)
- Sap usually gummy, resinous, strong odor.
- Contain plentiful fine, twiggy, dry or dead materials.

Ridgetop: A ridge top is the highest point running the length of a long narrow hill or chain of mountains.

Saddle: A saddle shaped depression in the ridge of hill. Often found at the head of a "chimney."

Slope: Upward or downward inclination. Measures of the vertical rise or fall all of a slope from a given point. Usually expressed in percent or degree of rise of fall.

Tree Canopy: The crown cover of green leaves and branches formed by all of the tree crowns in a forest.

Tree Crown: The branches and foliage of a tree; the upper portion of a tree.

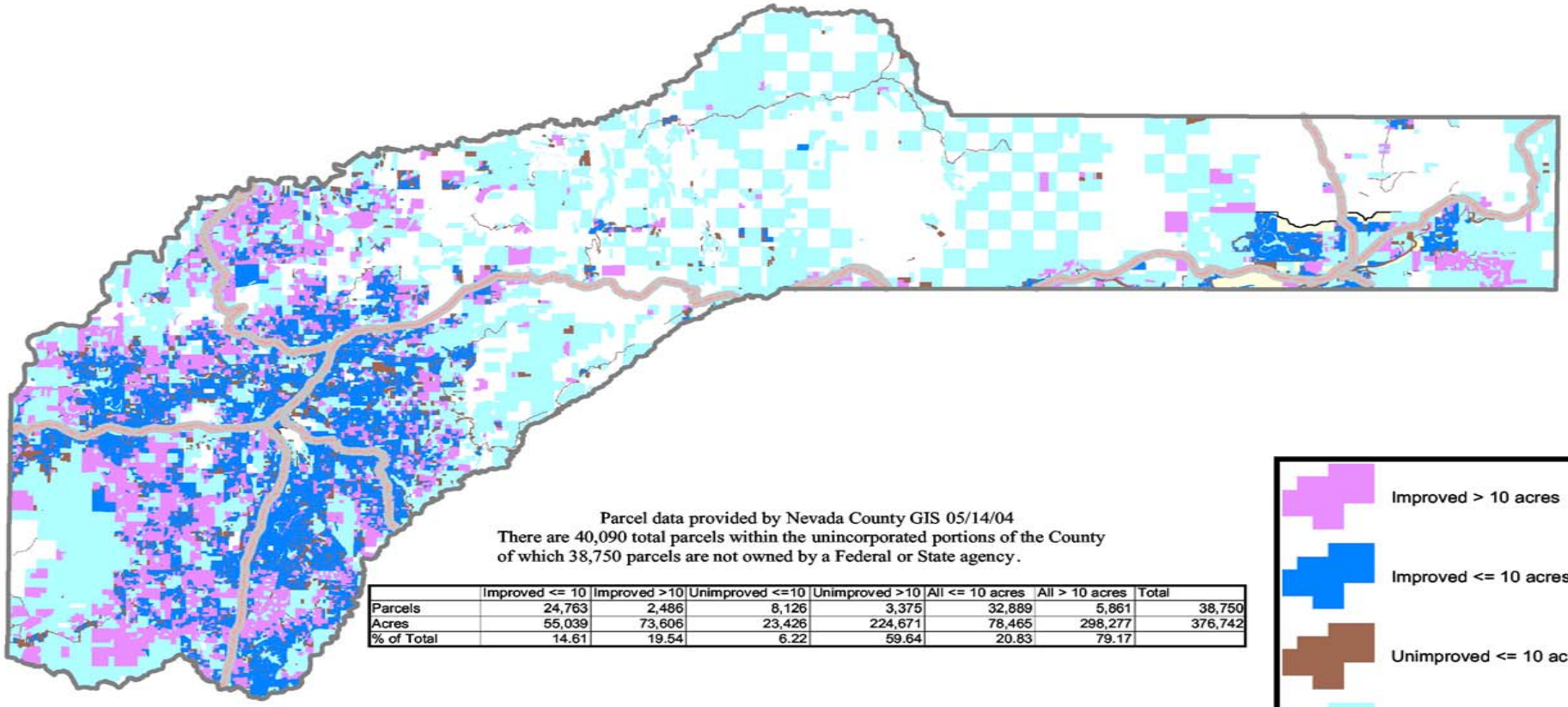
Wildfire: Any unwanted fire occurring in a wildland setting.

Wildland/Rural Intermix: Where many structures are present on a random or matrix pattern throughout large areas that are covered with contiguous brush and trees.

Wildlife Habitat: Vegetation, climate, and other natural conditions suited to the life needs for an animal species to survive and reproduce.

APPENDIX I- MAPS

Nevada County Parcel Allocations



Parcel data provided by Nevada County GIS 05/14/04
There are 40,090 total parcels within the unincorporated portions of the County
of which 38,750 parcels are not owned by a Federal or State agency.

	Improved <= 10	Improved >10	Unimproved <=10	Unimproved >10	All <= 10 acres	All > 10 acres	Total
Parcels	24,763	2,486	8,126	3,375	32,889	5,861	38,750
Acres	55,039	73,606	23,426	224,671	78,465	298,277	376,742
% of Total	14.61	19.54	6.22	59.64	20.83	79.17	

Kilometers
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0 10 20
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Improved > 10 acres
Improved <= 10 acres
Unimproved <= 10 acres
Unimproved > 10 acres
Incorporated Areas
Highways

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Vegetation Management

Nevada County Fire Plan

Addendum 1.

1. Recommendation 1. Include the Tahoe/Truckee Unified School District as a participant in development of a school curriculum having to do with teaching students about the fire adapted ecosystem. (Supervisor Green)

2. Recommendation 7. Clarification. Recommendations for activities and the application of standards within very high fire hazard areas associated with the Second Dwelling Unit Pilot Program are already contained in recommendations for application within CDF's Very High Hazard Severity Zones within which lie all of the of the Second Dwelling Unit very high fire hazard areas. (Supervisor Van Zant)

3. Recommendation 21. Add, "The FPC further recommends that the elderly/disabled emergency notification/evacuation system (known as S.A.F.E. or Special Assistance for Emergencies) be maintained as a viable method for early notification and evacuation of elderly or disabled citizens in the vicinity of major emergencies." (Supervisor Sutherland)

4. Recommendation 25. Clarification. The recommendation states that "…. green waste pick up, mulching or composting be the preferred alternative for leaf and pine needle disposal." The intent is that this recommendation is referring to leaves that have fallen from trees or shrubs because of seasonal changes and when piled together do not burn freely, generating an inordinate amount of smoke. (Supervisor Sutherland)

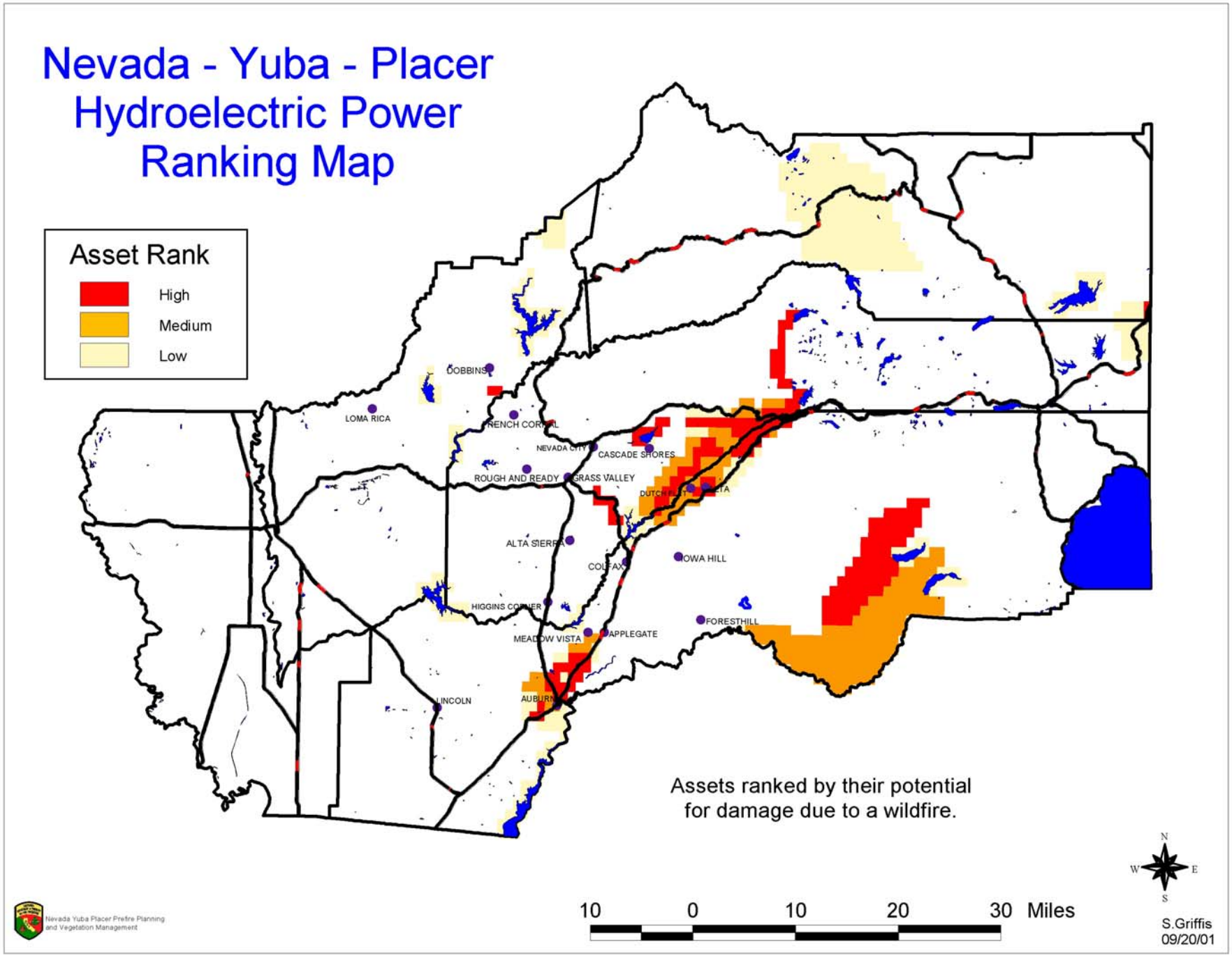
5. Goal II, Objective D. Add Recommendation 20-1. "The FPC recognizes the fire protection value of having economical and readily available irrigation water available to the landowners of Nevada County and recommends continued support for the Nevada Irrigation District and the agricultural community in keeping irrigation water available in the future. It further recommends that NID work closely with the fire service to make irrigation water readily accessible for fire suppression purposes." (Supervisor Sutherland)

Nevada County Fire Plan

Addendum 2.

1. **Recommendation 16**. Development of a compliance program for future developments and the extent permitted by State law to ensure that roads required as a condition of approval through subdivision maps are maintained over the long term, to the standard that they were originally approved.

2. **Recommendation 17**. The DOTS, along with County OES, law enforcement and fire services, conduct an analysis of private roads with offer of dedication on them and identify those of significant regional importance for fire safe ingress and egress. Once identified, those roads need to be prioritized for inclusion into the County maintained mileage program through a public process. Inclusion into the County maintained mileage system would require compliance with the County policy that they be brought up to County road standards and have a funding mechanism in place for future maintenance (e.g. CSA or PRD).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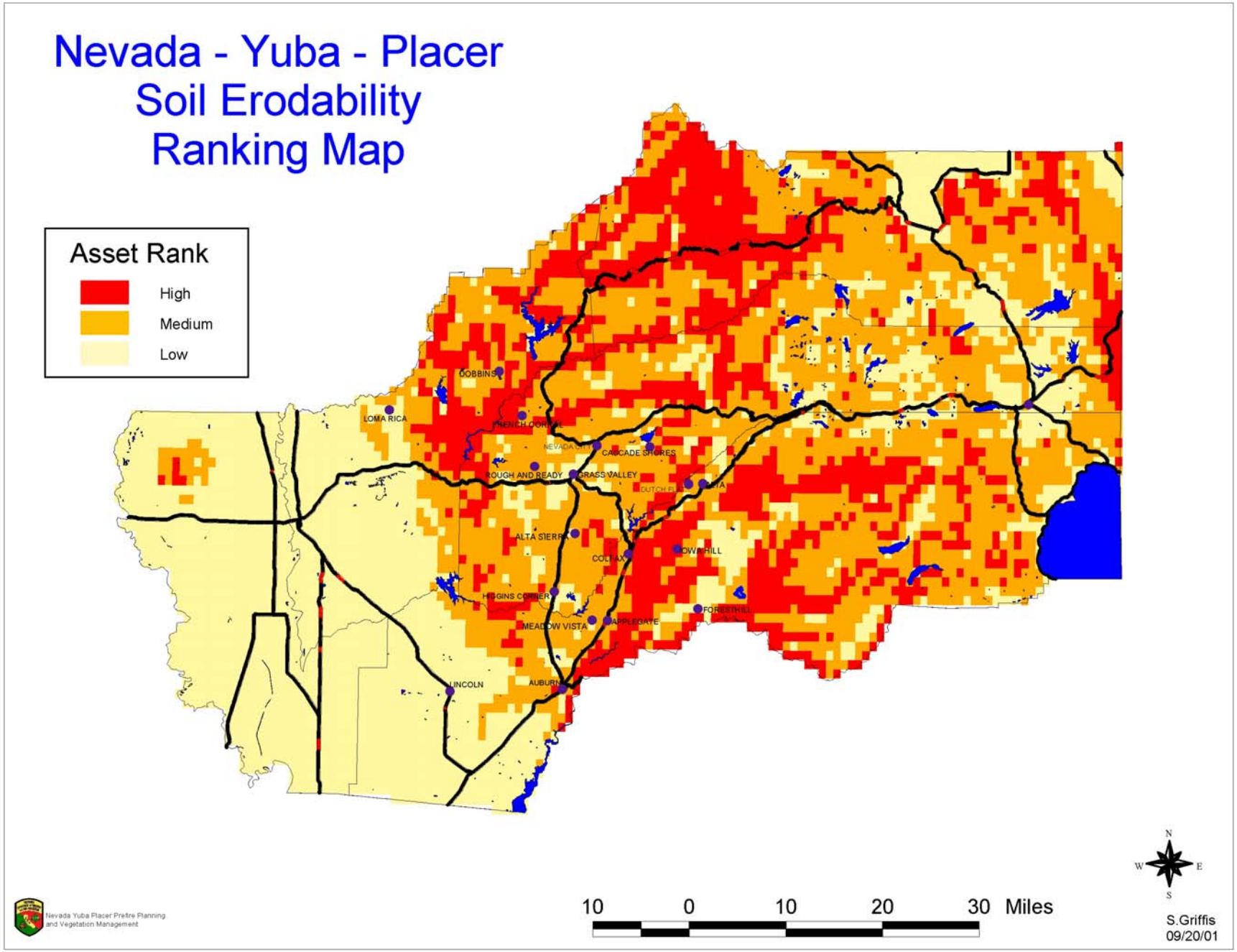
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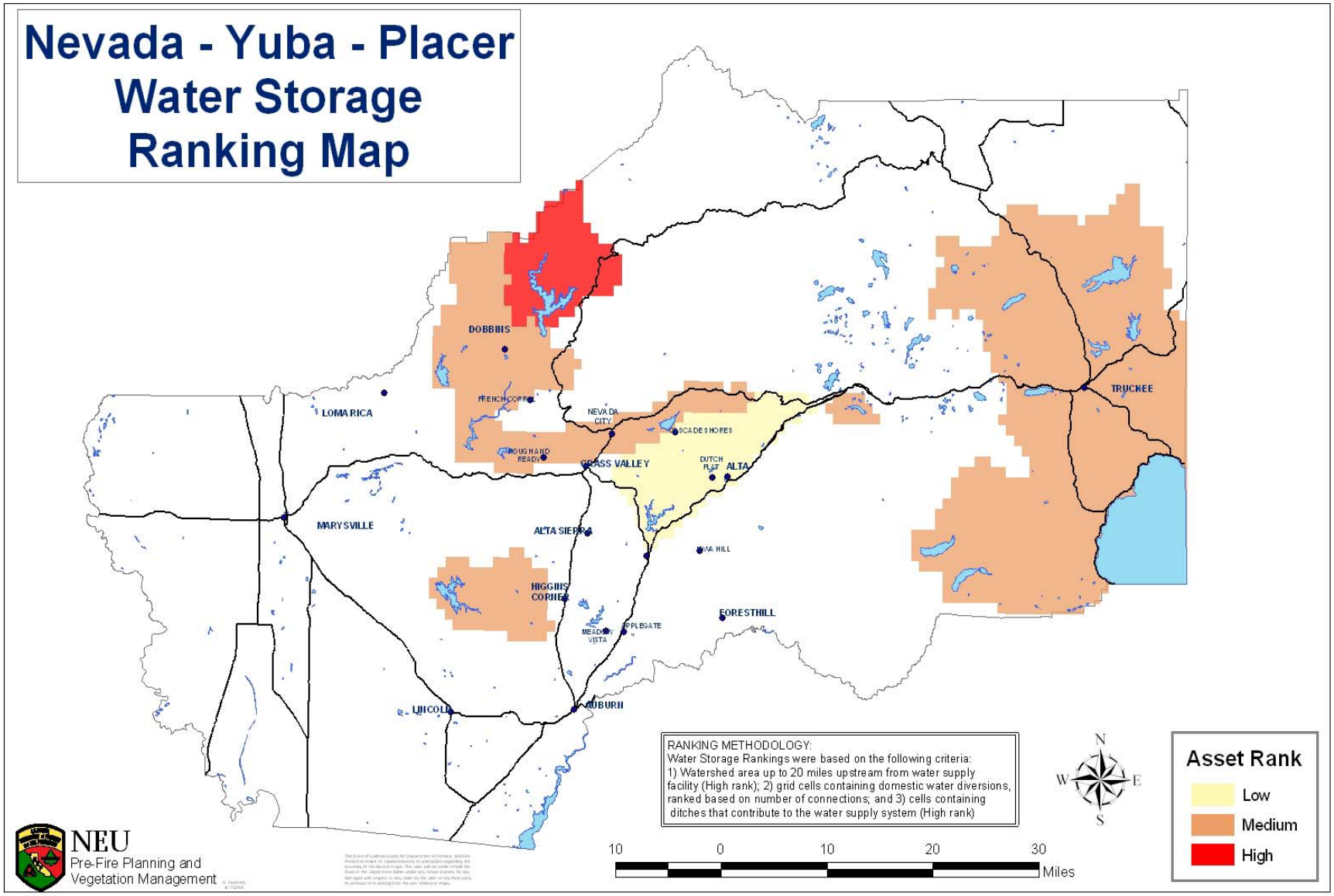
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RANKING METHODOLOGY:
Water Storage Rankings were based on the following criteria:
1) Watershed area up to 20 miles upstream from water supply facility (High rank); 2) grid cells containing domestic water diversions, ranked based on number of connections; and 3) cells containing ditches that contribute to the water supply system (High rank)
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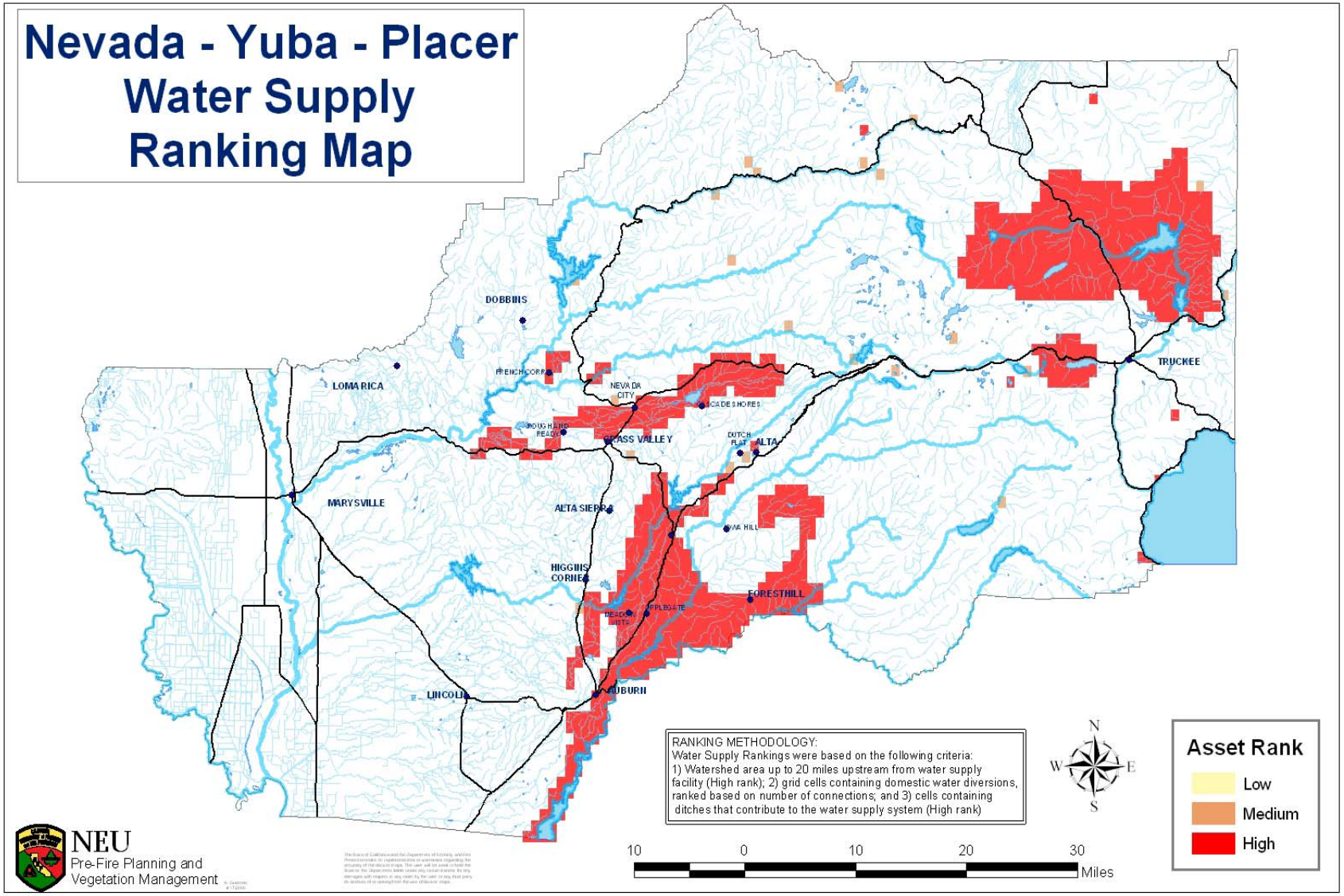
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RANKING METHODOLOGY:
Water Supply Rankings were based on the following criteria:
1) Watershed area up to 20 miles upstream from water supply facility (High rank); 2) grid cells containing domestic water diversions, ranked based on number of connections; and 3) cells containing ditches that contribute to the water supply system (High rank)
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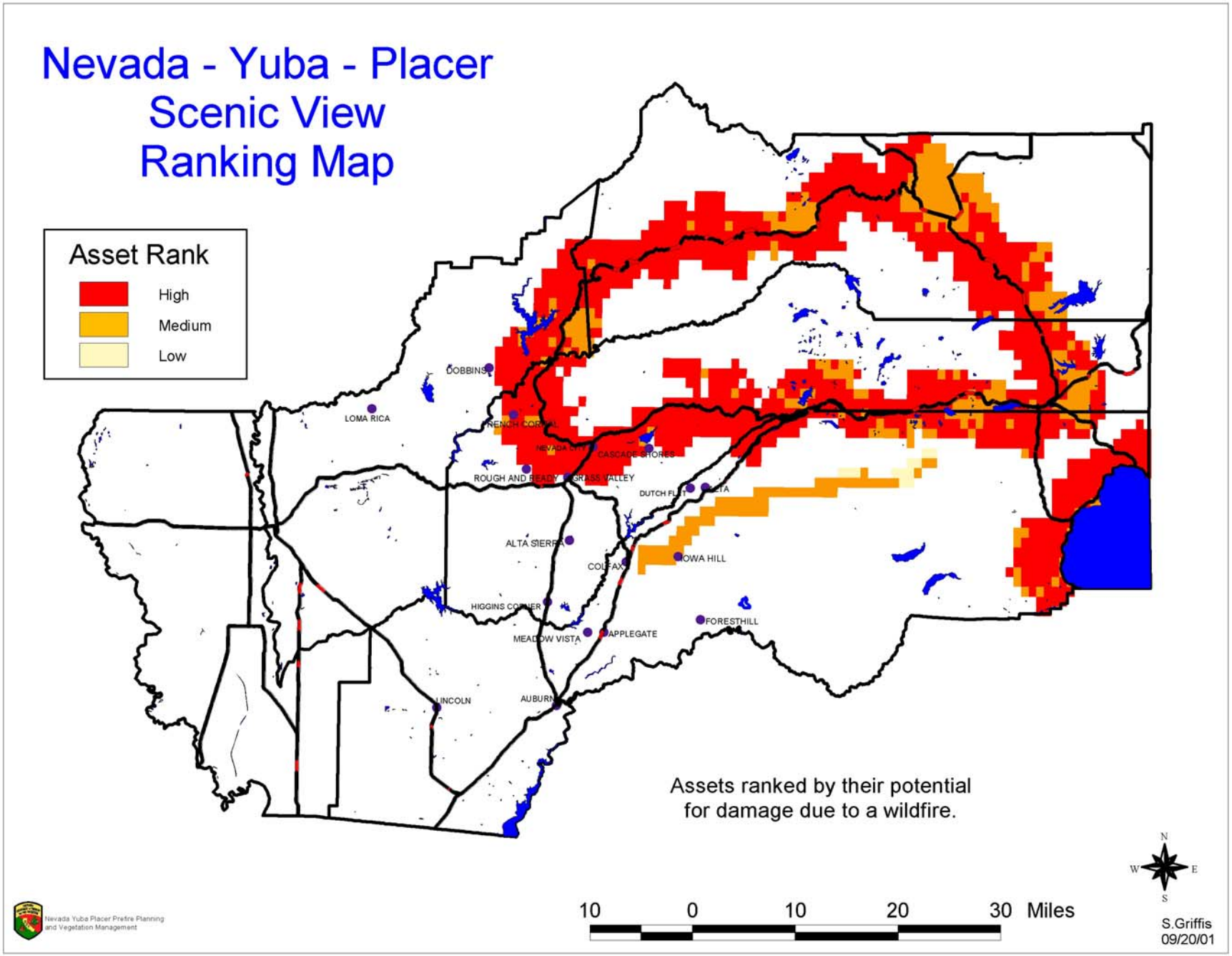
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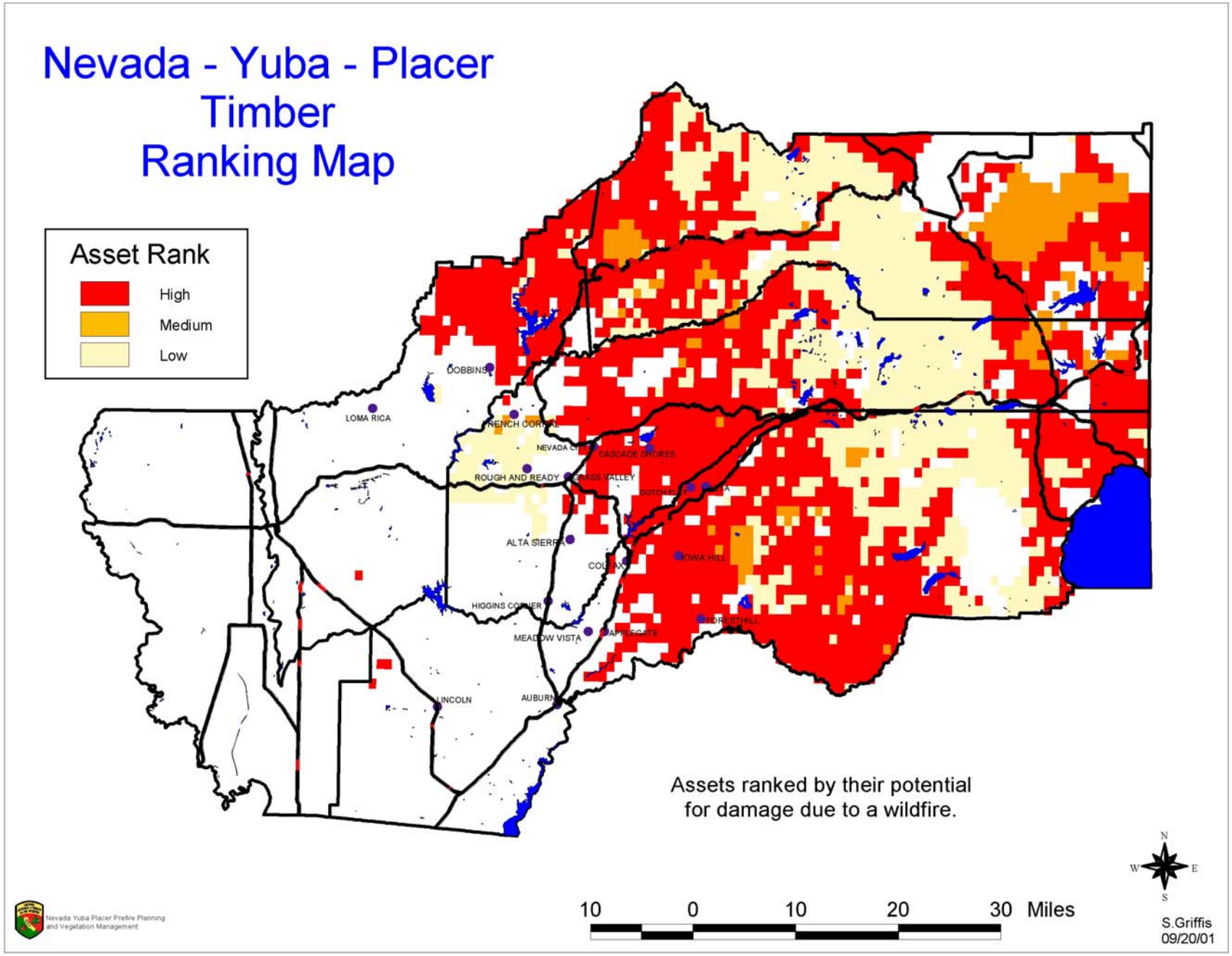
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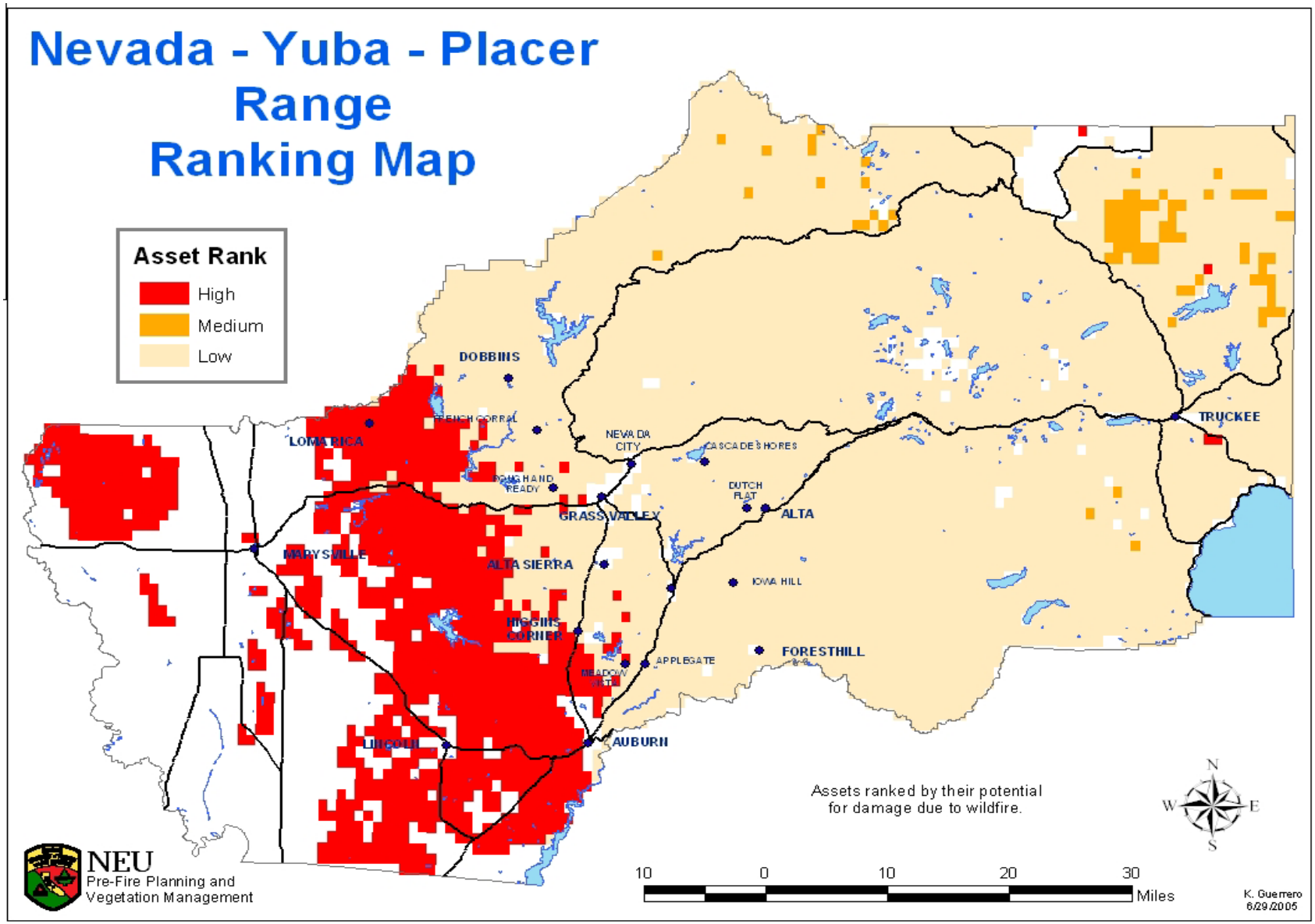
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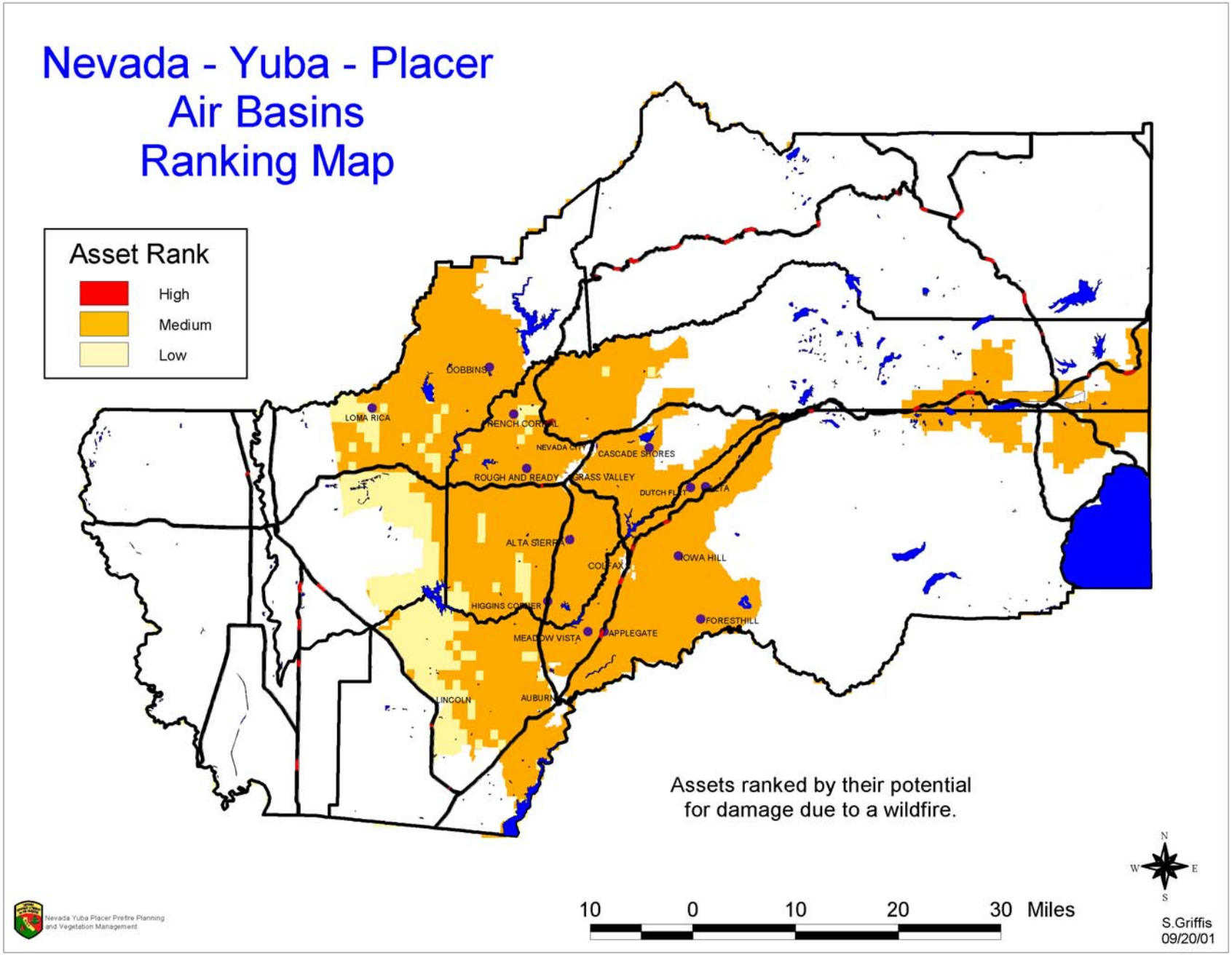
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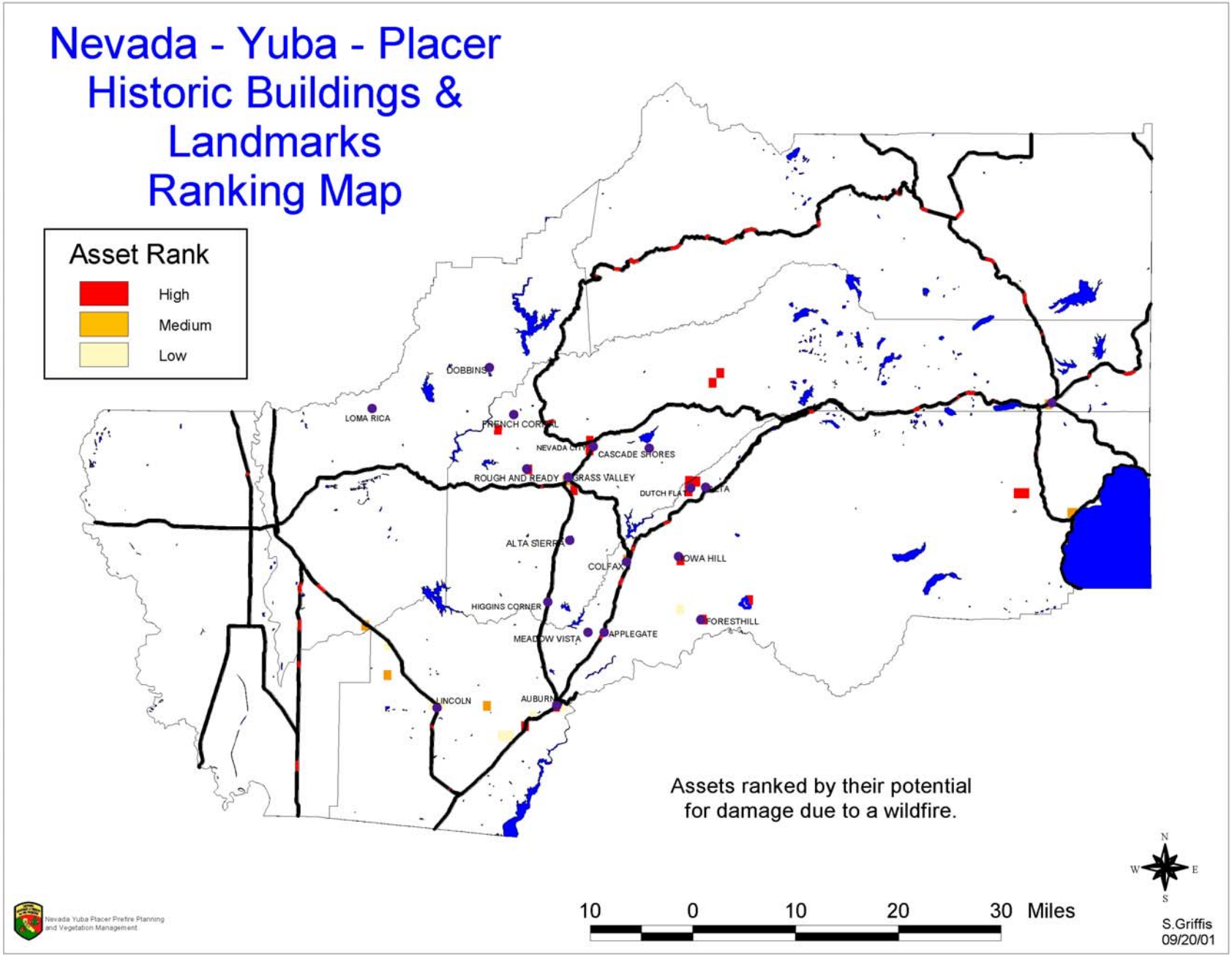
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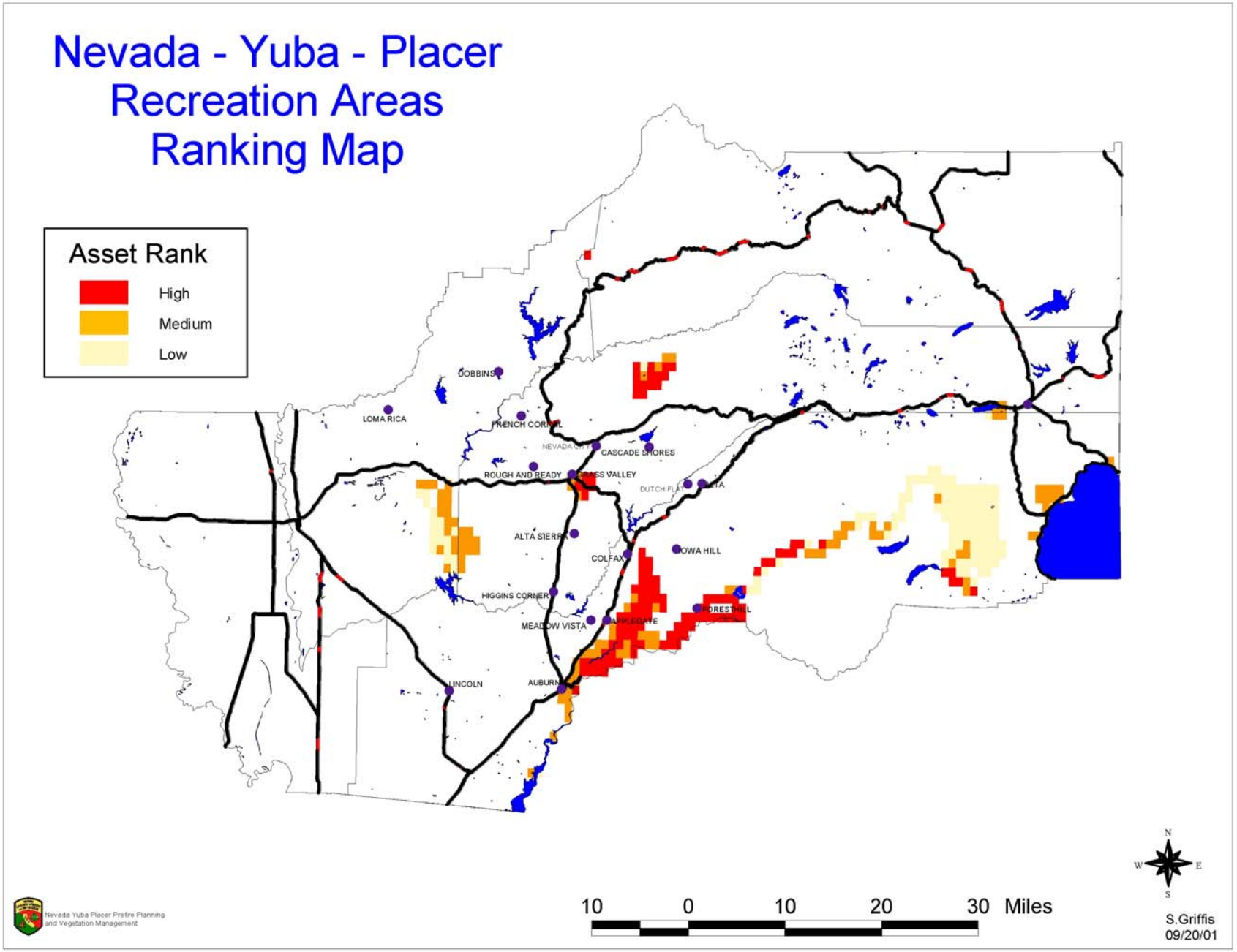
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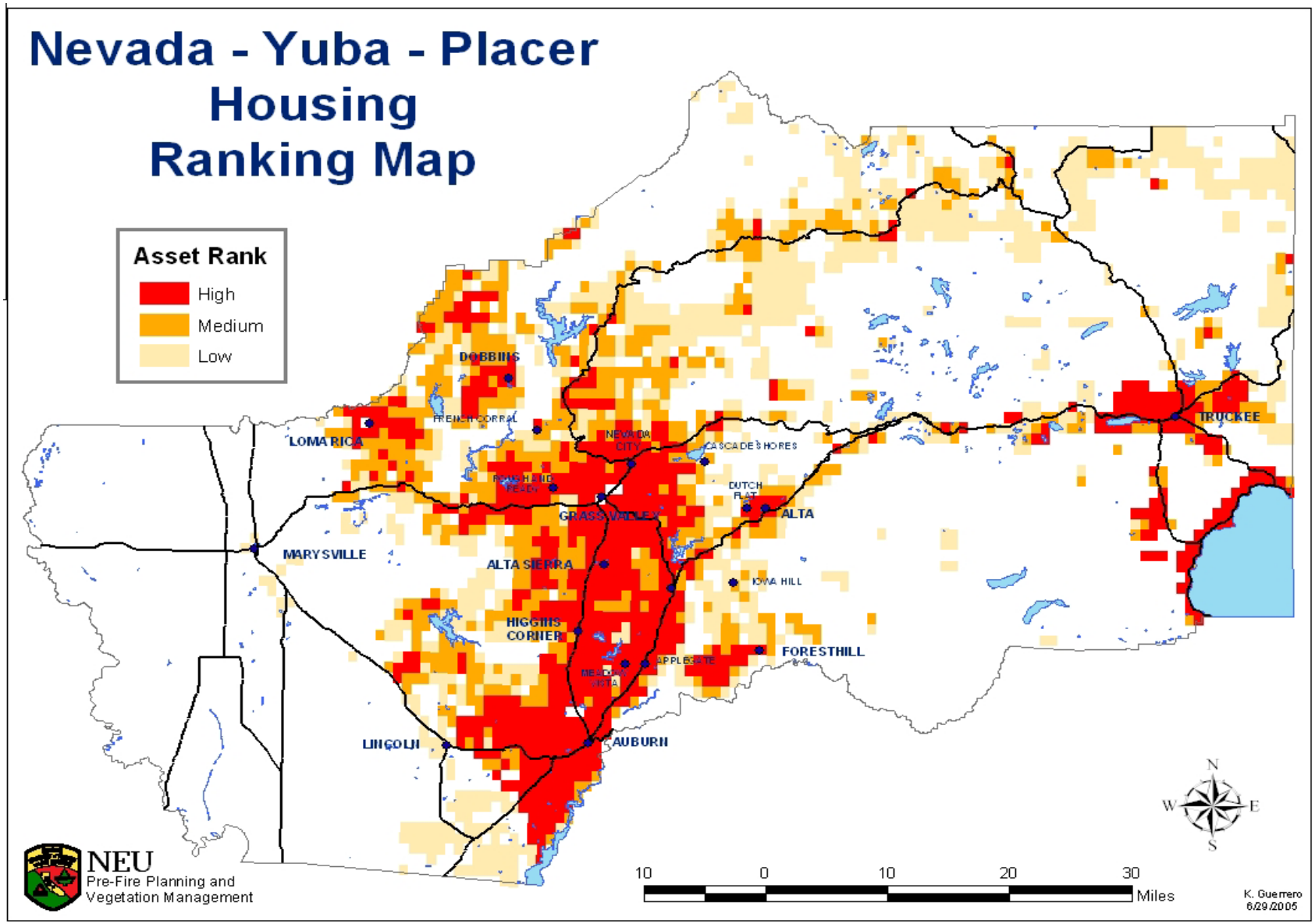
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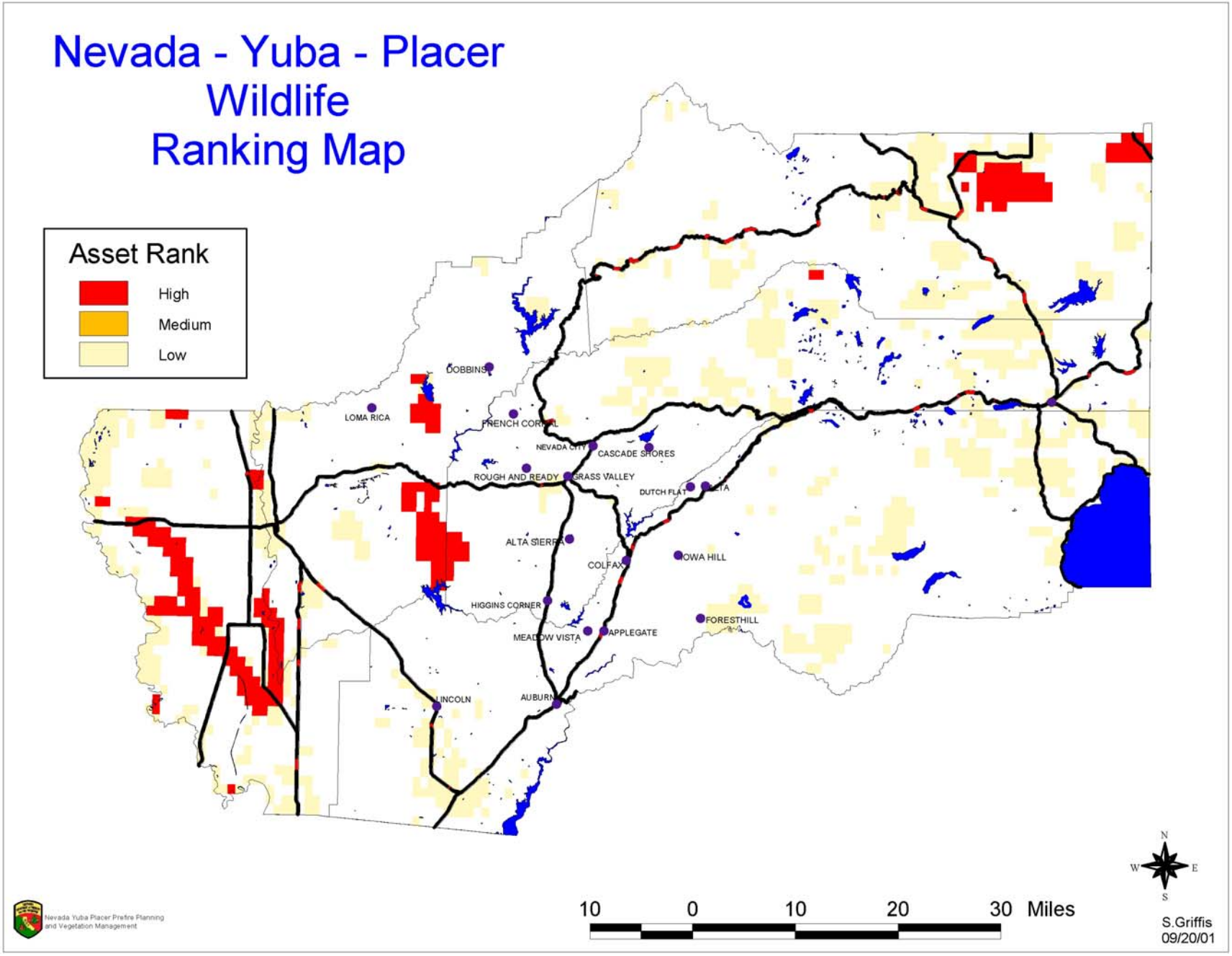
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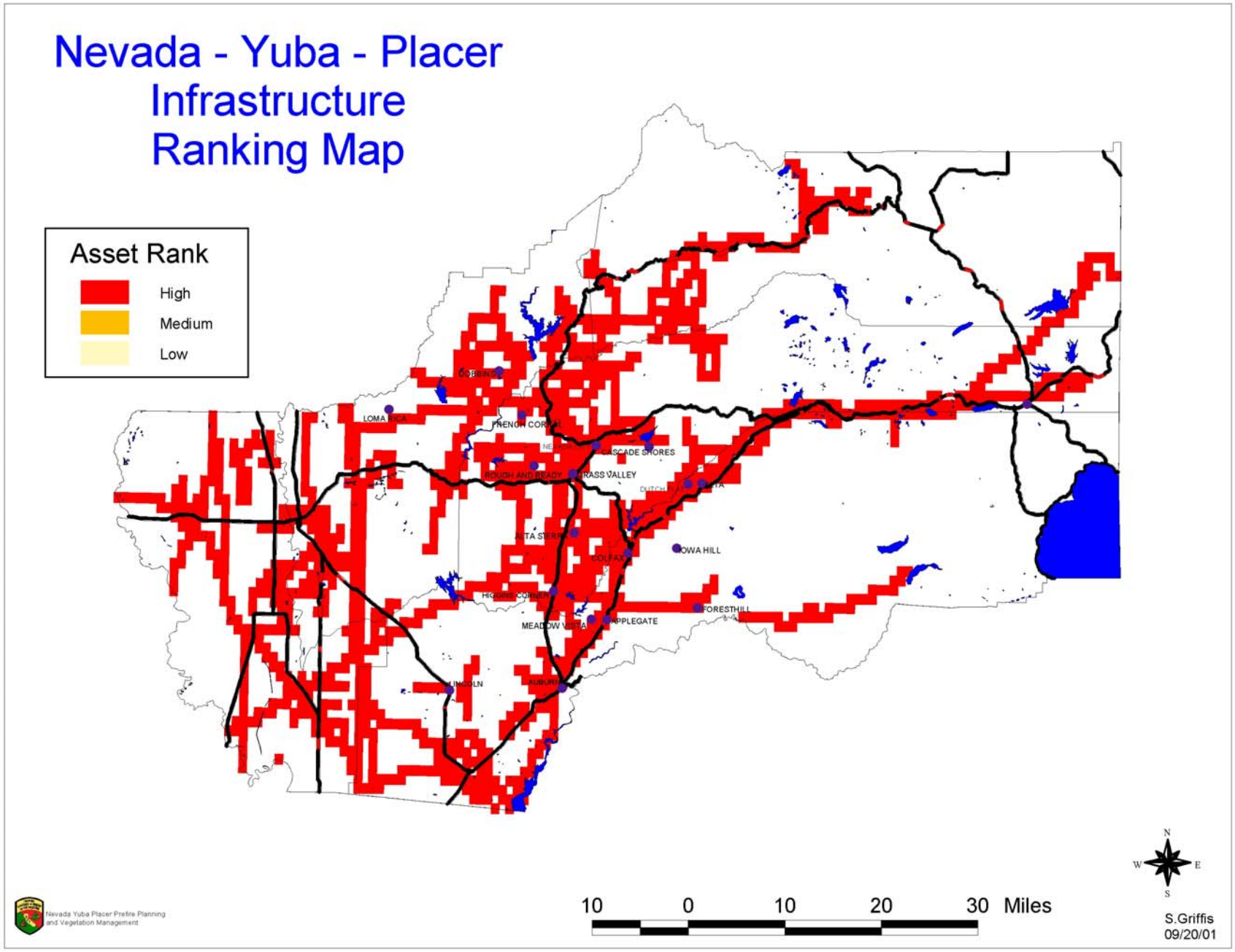
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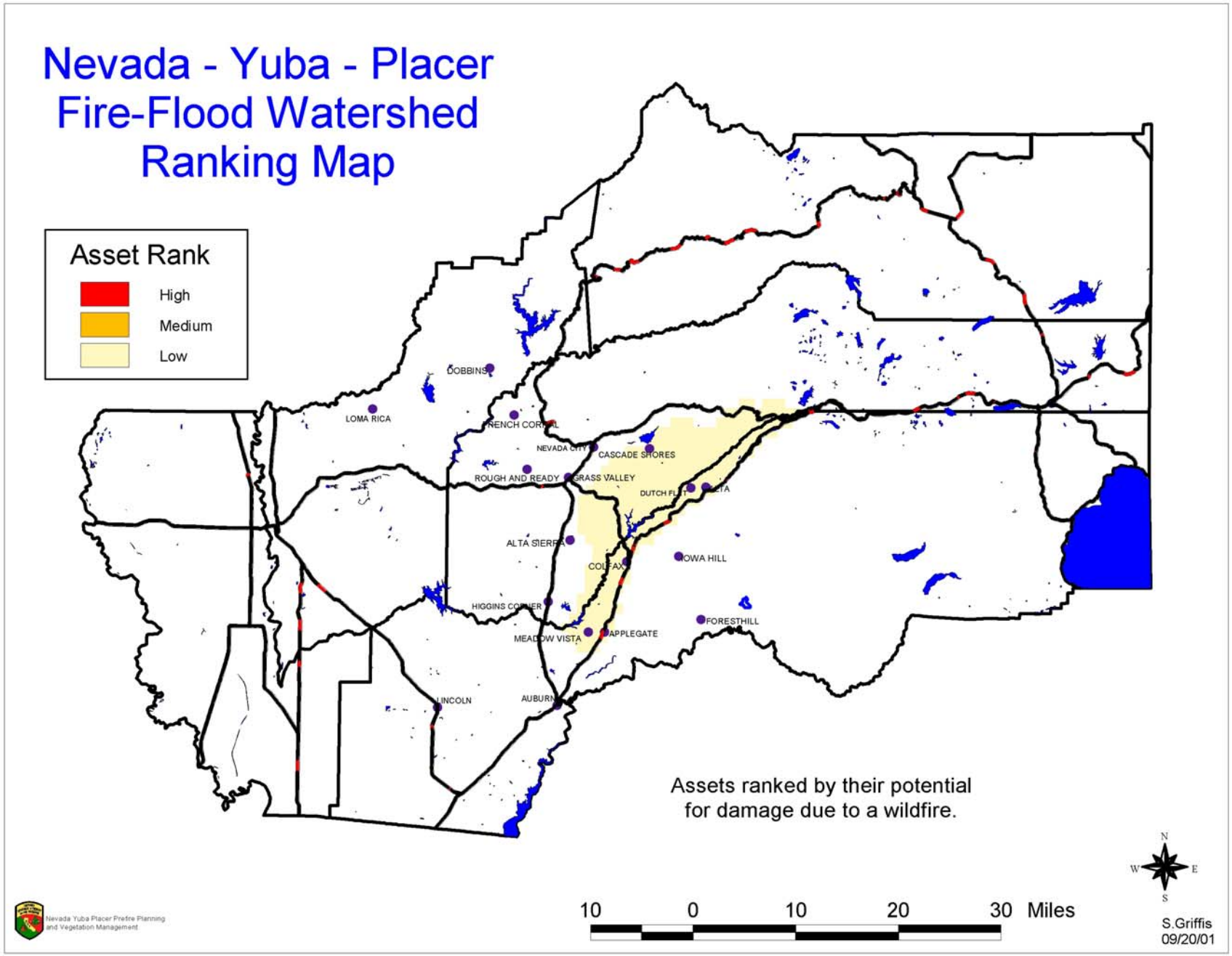
Nevada - Yuba - Placer
Fire-Flood Watershed
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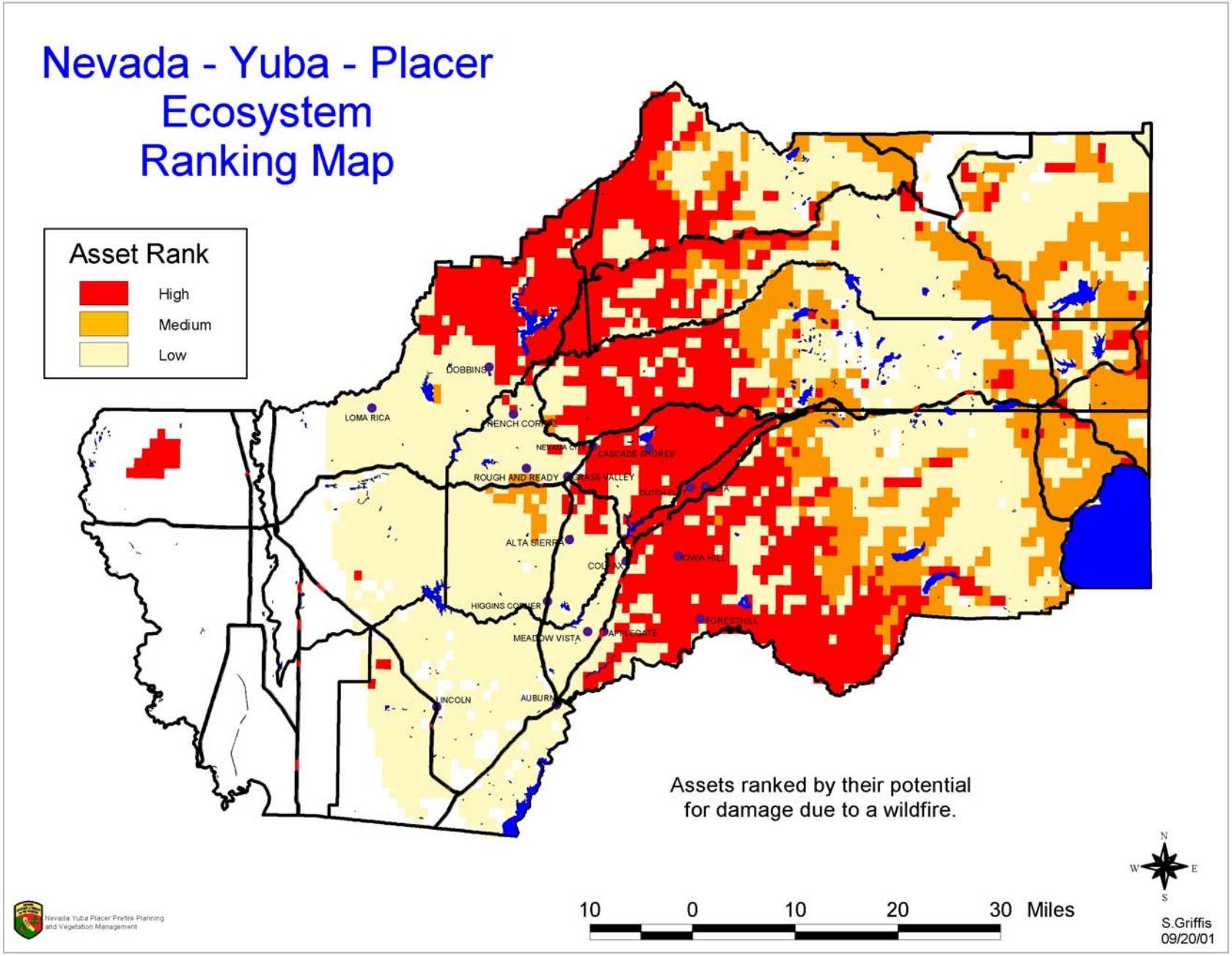
Nevada - Yuba - Placer
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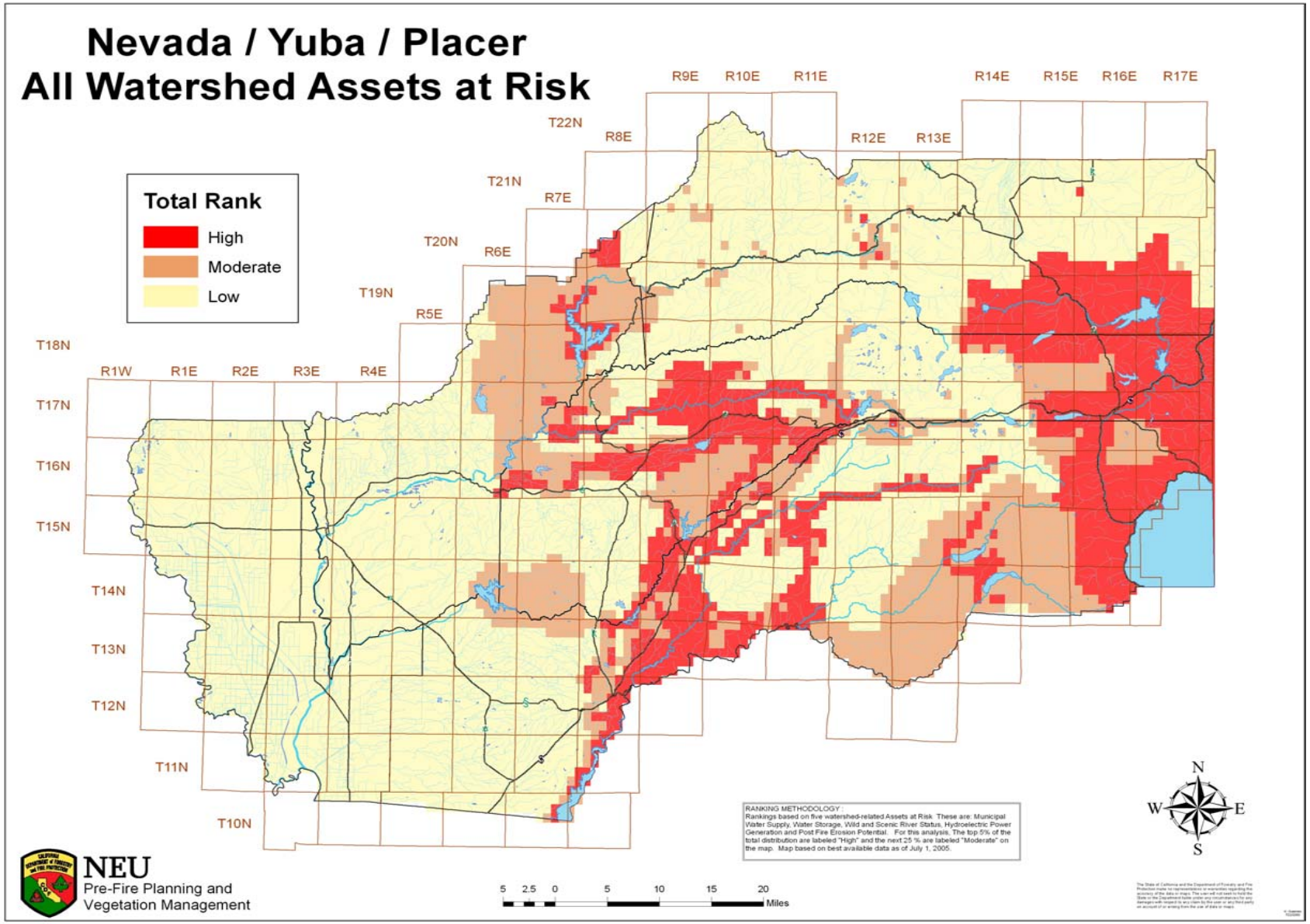
10
20
30
Miles
Nevada Yuba Placer Prefire Planning
and Vegetation Management
S.Griffis
09/20/01


Nevada / Yuba / Placer
All Watershed Assets at Risk
Total Rank
High
Moderate
Low
R9E
R10E
R11E
R14E
R15E
R16E
R17E
T22N
R8E
R12E
R13E
T21N
R7E
T20N
R6E
T19N
R5E
T18N
R1W
R1E
R2E
R3E
R4E
T17N
T16N
T15N
T14N
T13N
T12N
T11N
T10N
RANKING METHODOLOGY:
Rankings based on five watershed-related Assets at Risk. These are: Municipal Water Supply, Water Storage, Wild and Scenic River Status, Hydroelectric Power Generation and Post Fire Erosion Potential. For this analysis, The top 5% of the total distribution are labeled "High" and the next 25 % are labeled "Moderate" on the map. Map based on best available data as of July 1, 2005.
N
W
E
S
NEU
Pre-Fire Planning and
Vegetation Management
5 2.5 0 5 10 15 20
Miles