

**GREATER
LEMON RESERVOIR**

**COMMUNITY WILDFIRE
PROTECTION PLAN**

(GLRCWPP)

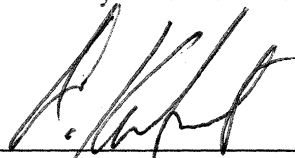


JUNE 2017

**Greater Lemon Area Community Wildfire Protection Plan
Approval and Concurrence**

Approval

The Durango District of the Colorado State Forest Service has reviewed this Community Wildfire Protection Plan and approves its content and certifies that it meets or exceeds CSFS Community Wildfire Protection Plan Minimum Standards.



D. Kent Grant, District Forester

1/26/2018

Date

The following entities have received a copy of this Community Wildfire Protection Plan and agree with and support its content and recommendations.



Chief, Upper Pine River Fire

1/30/2018

Date



Butch Knowlton, La Plata County,
Director of Emergency Management

Jan 31 2018

Date



TABLE OF CONTENTS

	<i>Section</i>	<i>Page</i>	<i>Sub-Section</i>
EXECUTIVE SUMMARY		5	
SECTION 1 – Background and History		7	1.0
The Community		7	1.1
Area Wildlife History		8	1.2, 1.3
Preparation for a Wildfire		10	1.4
SECTION 2 – CWPP and WUI Areas		12	2.0
Area		12	2.1
Boundaries		12	2.2
Private Lands		13	2.3
Public Lands		16	2.4
Fire Protection in the Area		18	2.5
SECTION 3 – Fire Policies and Programs		20	3.0
SECTION 4 – Partners and Committees		22	4.0
SECTION 5 – The Planning Process		24	5.0
SECTION 6 – Description of the Community		26	6.0
Natural Environment		26	6.1
Population, Homes, Vacant Parcels		26	6.2
Road Systems and Linkages		27	6.3
Land Uses		28	6.4
SECTION 7 – Wildfire Risk Assessment		30	7.0
Fire Hazard Conditions		30	7.1
Vegetation		31	
Fire Behavior		31	
Modeling		37	
Structural Vulnerability		45	7.2
Protection Challenges and Capabilities		46	7.3
Fire Risk		47	7.4



TABLE OF CONTENTS

<i>Section</i>	<i>Page</i>	<i>Sub-Section</i>
SECTION 7 – Wildfire Risk Assessment <i>(continued)</i>		
Values at Risk	48	7.5
People	48	
Property	48	
Infrastructure	49	
Commercial Activities	52	
Ecosystem and Wildlife	53	
Social Values	54	
Historic Significance	54	
SECTION 8 – Emergency Management	58	8.0
SECTION 9 – Mitigation and Implementation	60	9.0
Education and Community Outreach	60	9.1
Fuels Reduction Recommendations	61	9.2
Policies and Covenants	69	9.3
Inventory of Needed Resources	71	9.4
Fire Station – District 9	71	
Cellular Telephone Tower / Booster	72	
Fire Danger Signage	73	
Community Bulletin Boards	73	
Water Sources	73	
Community Equipment and Tools	73	
Community Meeting Space	74	
Recommendations Charts	74	9.5
General for GLRCWPP	75	
Aspen Trails	78	
Trew Creek Estates	80	
Haciendas de la Florida	82	
Hunter’s Ridge	83	
La Cherade Park	84	
Sierra Verde Estates	86	
Florida Park	88	
Wilderness Lake Mountain Estates	89	



TABLE OF CONTENTS

<i>Section</i>	<i>Page</i>	<i>Sub-Section</i>
SECTION 10 – Monitoring and Evaluation	91	10.0
<hr/>		
APPENDIX		
Acronyms	94	
Glossary of Terms	95	
References and Resources	97	
Meetings and Activities (<i>notes and flyers</i>)	99	
Maps	126	



EXECUTIVE SUMMARY

The Greater Lemon Reservoir (GLR) community is defined as the Upper Florida River corridor of property owners, businesses, and the surrounding lands and watershed, including Lemon Reservoir and the Lemon Reservoir Dam. It is a geographically large area where stakeholders recognize that their “neighborhood” of mountain subdivisions, individual private properties, commercial properties, and public lands – and the way of life they provide - for residents and visitors alike - are at risk from wildfires whether originating within a subdivision or advancing from another property or forest land.

As stewards of the land and survivors of the Missionary Ridge Fire, the GLR community acknowledges the risk of wildfire when living in an area where structures and other features of human development meet and intermingle with flammable wildland fuels. This “intermingling” is the broad definition of the area referred to as the Wildland Urban Interface (WUI). More specifically, the WUI is defined as those areas extending from the boundary of an at-risk community which lack emergency access routes, are in poor proximity to water sources, have areas with steep slopes and high risk vegetation, and/or are in close proximity to fuels on public lands. The GLR community meets this definition in every way.

Efforts within the community to educate property owners about wildfire risk and the need to mitigate around structures have been underway for several years. Although many property owners have voluntarily started mitigation activities, development of a Community Wildfire Protection Plan (CWPP) is an important step in protecting values at risk, not only in the GLR area and adjacent subdivisions, but also across the broader landscape, including the forests of the contiguous public lands.

Many benefits accompany the creation of a CWPP. Through development and implementation, the GLR community will be able to:

- Improve coordination and communication with emergency response agencies and among the GLR community.
- Identify and prioritize projects that will increase wildfire preparedness and reduce the risk and impacts of wildfire.
- Participate in the establishment of fuels treatment priorities for surrounding federal and non-federal lands.
- Increase competitive advantage in securing grant funding.
- Provide education and understanding of fire behavior, healthy forests, and the safe mitigation of property.

Completion of the Greater Lemon Reservoir Community Wildfire Protection Plan (GLRCWPP) is an important link in providing comprehensive wildfire mitigation and preparedness. The adjacent subdivisions of Forrest Groves Estates (2016), Enchanted Forest Estates (2015), Vallecito (2014), Los Ranchitos Estates (2012), Tween Lakes Estates (2012), and Forest Lakes (2011) have completed CWPPs. La Plata County last revised its CWPP in 2006. The GLR community hopes to protect not only personal values in the GLR area but also in the encompassing watersheds and

infrastructure up to (and sometimes overlapping) defined areas of neighboring CWPPs which are all at risk in the event of a fire. Approval of this document and following its recommendations will bridge other CWPPs and “orphan subdivisions” along the Florida River corridor, joining area neighbors in an effort to protect communities, valuable watersheds, and forests along the Florida and Pine River corridors of northeastern La Plata County.

The GLRCWPP is designed to further rally the GLR community toward awareness and motivation for action of fire prevention. The Plan was developed to identify specific goals and priorities and to position property owners to apply for, and hopefully secure, grants and other funding sources to help finance projects which would otherwise be very difficult to complete. The GLR community approach to accomplishing these objectives will include communication and education, establishment of a community-wide FireWise network to include enlistment of FireWise Ambassadors, identification and prioritization of specific fuel reduction projects, development of evacuation plans, and support of individual efforts at fuel reduction.

The GLRCWPP is a compilation of recommendations for reducing fire danger (especially from wildfires), improving fire preparedness, protecting community values, and promoting healthy forests. Successful implementation depends upon property owners and partnerships. The GLRCWPP is a blueprint for voluntary action and places no requirements upon its parties, but through its implementation, the GLR community hopes to provide the following:

- A proactive guide for property owners, neighborhood associations, and other stakeholders to reference for ongoing involvement in reduction of the risk and impacts of wildfire.
- Tangible evidence of property owners’ dedication to creating a safer community through wildfire preparedness.
- A foundation for coordination and collaboration among -
 - property owners, businesses, and other stakeholders (within and contiguous to the GLRCWPP area), and
 - federal, state, county, and local agencies to reduce the risk of wildfire.

Effectiveness of the GLRCWPP is contingent upon actual implementation of the recommendations and the prioritized projects identified herein. Monitoring and evaluation of the implementation process will include periodic reviews provided to the GLR community, FireWise of Southwest Colorado, and the Colorado Forest Service:

- An annual review among the stakeholders, including “Lessons Learned,” of fuels mitigation projects and activities.
- A bi-annual review of the CWPP, with adjustments in the form of revisions, if warranted.
- A formal update to the CWPP, conducted every five (5) years (or as needed).

Many decide to build their lives and their homes in the heart of the forested landscape. The beauty of this area attracts people from all over the world. The rural ambience, and all it offers, is valued by residents and visitors alike. In *Pioneers of the San Juan County (1960)*, of the area Sarah Platt Decker writes - “...a land of so many distinctions – a farmer’s Eden, a stockman’s Utopia, a lumberman’s Land of Plenty, a vacationist’s Happy Landing, a sportsman’s Delight, a miner’s Dream, an archaeologist’s Mecca, and a geologist’s Paradise!” The purpose of GLRCWPP is to ultimately save lives and to preserve these extraordinary values at risk.



BACKGROUND AND HISTORY

SECTION 1

THE COMMUNITY

1.1

The Greater Lemon Reservoir (GLR) rural community is located in the Upper Florida River Valley, in the northeastern part of La Plata County, in southwestern Colorado. The GLR community is approximately 15 miles northeast of Durango, Colorado, the county seat and the largest city in La Plata County. The two other closest centers of population to the GLR area are the town Bayfield to the south and the community of Vallecito to the east.

The most recent census survey (2016) indicates the population of La Plata County is 55,623. The estimated population of the GLR area is 657 or approximately 1% of La Plata County's population. La Plata County encompasses 1,700 square miles. The GLRCWPP Wildland Urban Interface (WUI) boundary encompasses 56 square miles or 3.3% of La Plata County. The GLR area elevation ranges from 7,500' to over 10,000' and includes eight (8) mountain subdivisions and 126 non-subdivision private properties. The subdivision communities include Aspen Trails, Trew Creek Estates, Haciendas de la Florida, Hunter's Ridge, La Cherade Park, Sierra Verde Estates, Florida Park, and Wilderness Lake Mountain Estates. The GLR area includes public lands (U.S. National Forest, U.S. Bureau of Land Management, U.S. Bureau of Reclamation) and water assets important to the Florida Water Conservancy District and the City of Durango.

Lemon Reservoir came into being in 1963 upon the completion of Lemon Dam. The Reservoir provides necessary, practical, and recreational purposes for the Greater Lemon community and beyond, including flood control for properties above and below the Dam. The watershed from the GLR area serves as the primary source of drinking water for the City of Durango and as a primary source of irrigation for livestock and agricultural use in La Plata County, specifically lands on the Florida Mesa. The terrain is mountainous, steep, heavily forested, and has been negatively affected by persistent drought.



Over the last 15 years, the annual population growth of La Plata County has been approximately 1.56%; it is believed the GLR area has experienced the same average annual population growth.

La Plata County is known for its outdoor activities, tourist attractions, natural resources (oil and gas), livestock and agricultural interests, the Southern Ute Native American Indian Reservation, national parks and public lands access. The GLR area adds value to La Plata County by way of the supply of

drinking water, livestock and agricultural irrigation, ranching and grazing lands, wildlife habitat, outdoor activities, vacation spots in the community's campgrounds, and by serving as a gateway to the Weminuche Wilderness.

The Greater Lemon Reservoir Community Wildfire Protection Plan (GLRCWPP) falls within six (6) townships and ranges: T37N R8W, T37N R7W, T36N R8W, T36N R7W, T35N R8W, and T35N R7W.

AREA WILDFIRE HISTORY

1.2, 1.3

Since 1970, fifty-nine (59) minor wildland fires have been reported on federal lands within the GLRCWPP WUI. Fifty-eight (58) were one (1) acre or less; one (1) was less than ten (10) acres. Forty-nine (49) were lightning caused. Ten (10) were human caused (*USFS data compiled by Cary Newman*). Since 2000, there have been at least six (6) major wildland fires in the vicinity of the Greater Lemon CWPP perimeter. Although only two (2) actually burned within the perimeter, all fires impacted this area in some way including some heavy smoke concentrations, restricted travel



on adjacent roads, and diminished tourism for local businesses. Of these fires, only the Missionary Ridge Fire was determined to be human caused, so more than 83% were lightning caused.

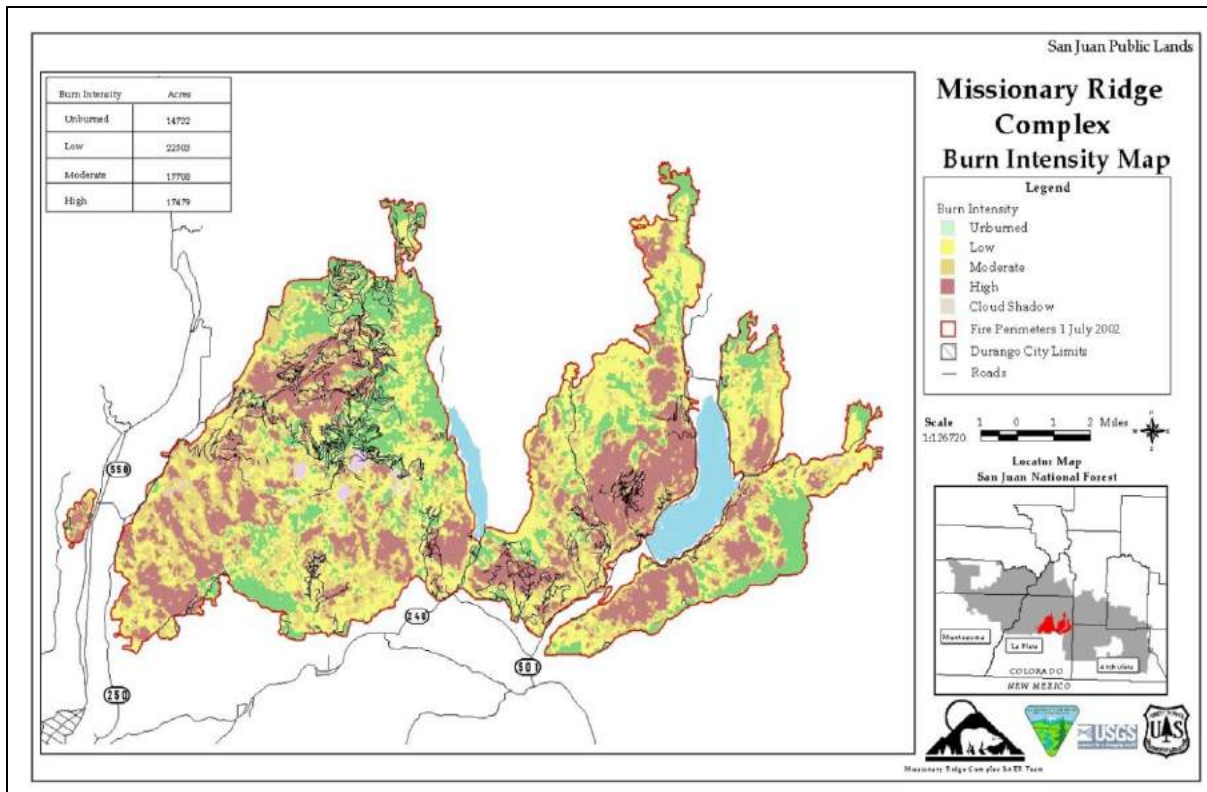
In the Aspen Trails subdivision, at least three (3) minor human caused fires ignited from burning slash or embers from fireplaces. The fires remained as ground fires and caused minimal damage. Lightning caused fires occurred on Missionary Ridge above Lemon Dam in 2014 and on the North Fork Texas Creek ridgeline in 2015. Because of the steep terrain, dense forest, and lack of road access, management of both of the lightning caused fires required helicopters and fire-jumpers

The most prominent wildfire event in the past twenty (20) years in the GLRCWPP WUI area was the Missionary Ridge Fire which started in June 2002, likely caused from a vehicle exhaust pipe spark. It burned for six (6) weeks and consumed over 70,000 acres in and around the GLRCWPP WUI. Fire moved from the Upper Animas River

valley and progressed over Missionary Ridge to the east to cover much of the land along the Lemon Reservoir corridor. Fire behavior caused it to spot through parts of the forest, burning completely through many acres. All homes in the area were threatened; fifty-six (56) homes were completely lost. Over 1,700 residents were evacuated from their homes for several weeks. Suppression costs totaled over \$40 million. One firefighter lost his life.

Of particular note were the impacts within the GLRCWPP WUI area and the potential impacts on Lemon Reservoir and its tributaries, Lemon Dam, and drainage into the Florida River. West of the Reservoir, 450 acres burned in Knight Canyon. This posed a big threat to the Dam because of the

potential, given a significant rain event, for thousands of cubic yards of debris flow to plug the intakes and the spillway. The Florida Water Conservancy District spearheaded an emergency watershed remediation project to prevent debris flow. They partnered with the Natural Resources Conservation Service, the Colorado Department of Health and Environment, the Colorado State Forest Service, the Burned Area Emergency Rehabilitation (BAER) Team (post-fire experts), and the Bureau of Reclamation to mediate the land in the canyon. Efforts included triple seeding, mulching with straw, and crimping to encourage the establishment of vegetation in hydrophobic soil. The collaboration received national recognition for its mediation efforts. (*John Ey, Florida Water Conservancy District*).



Near Lemon Reservoir, fire crossed below Lemon Dam. While the mountainside east of the Dam burned, the most severe damage was on the southwest portion of the Reservoir. Pine and aspen forest burned in some places all the way down-slope to the Reservoir. The severity of the burn created significant amounts of hydrophobic soil.

Because of the lack of vegetation, landslides started to occur. Mud, soot, debris, and trees were strewn into the river channel below the Dam; some of the slides came very close to clogging the Florida River. Municipal water supply, irrigation water supply, and road access were threatened. The City of Durango stores water in City Reservoir, above Lemon Reservoir, and releases it to the Florida River for use in Durango and surrounding communities. There was great concern to protect the watershed, which required extensive mitigation work in the aftermath. The Florida Water Conservancy District worked with La Plata County government, the U.S. Geological Service (Hazardous Movement Division in Golden), and the City of Durango to set up monitoring equipment in this area.

Aspen Trails experienced significant damage with the loss of two (2) homes, three (3) outbuildings, and two (2) well pump houses. Hydrophobic soil covered approximately 150 acres in the community. Post-fire flooding caused a huge debris flow along Trew Creek Road, requiring bridge rebuilding. Watershed protection activities included creating step-down water-flow reduction along Trew Creek and culvert replacement with protective grating where water drains into the Florida River.

Major Fires Impacting Areas Surrounding the GLRCWPP WUI		
<i>Fire</i>	<i>Year</i>	<i>Acres Burned</i>
Missionary Ridge	2002	73,121
Bear Creek	2003	1,869
Red Creek	2010	32.8
Little Sand	2012	24,931
Vallecito Fire	2012	1,400
West Fork Complex	2013	109,615

PREPARATION FOR A WILDFIRE

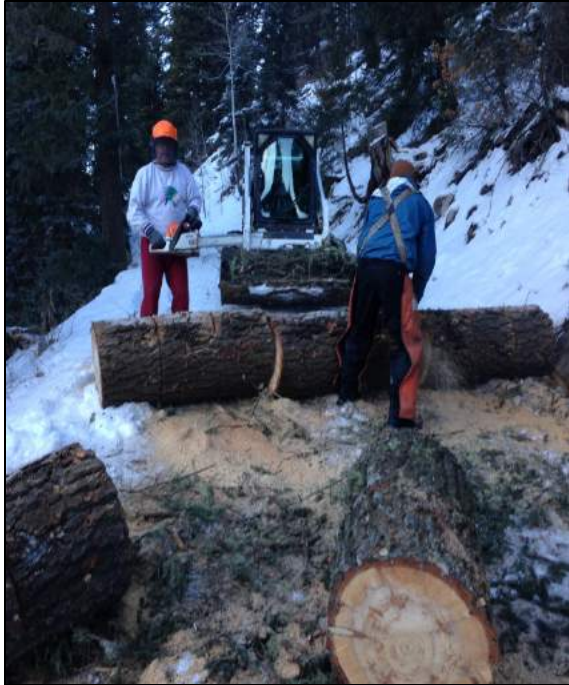
1.4

For many years, FireWise of Southwest Colorado has engaged Ambassadors in the neighborhoods of the GLRCWPP area (Aspen Trails, La Cherade Park (I and II), and Wilderness Lake Mountain Estates). Kickstart grants, offered by FireWise, have been essential in generating interest in community awareness regarding fuels reduction. Aspen Trails utilized the Kickstart grant in 2015 to improve Zone 2 along additional primary roads right-of-way, decreasing ladder fuels, and creating fuel breaks for approximately 1.3 miles. La Cherade Park obtained a Kickstart grant in the summer of 2014 and used the funds to mitigate Zone 1 around several residential structures. FireWise was key in bringing this group of stakeholders together to organize the Greater Lemon Reservoir community and to develop the GLRCWPP.

A significant effort of the community to prepare for a wildfire event is the creation of the GLRCWPP. Property owners have worked collaboratively with other area stakeholders from the Upper Pine River Fire Protection District, FireWise of Southwest Colorado, Colorado State Forest Service, Columbine Ranger District, Bureau of Land Management, La Plata County Office of Emergency Management, Bureau of Reclamation, the Florida Water Conservancy District, and the La Plata County Geographical Information System (GIS) Office.



After the Missionary Ridge Fire, Aspen Trails formed the Aspen Trail Metropolitan District (ATMD) in 2003 for road improvement. Formation of the District was a direct result of the impact on the neighborhood and concern over the poor road conditions for emergency responders to access the homes. The District collaborated with the Los Ranchitos subdivision to create an emergency egress from Sierra Drive onto Lobo Drive in 2004.



Aspen Trails initiated their mitigation efforts in 2014 with a self-funded road improvement effort on the primary entry road into the subdivision. Aspen Trails hosted a neighborhood barbecue in July 2015 to share information about wildfire mitigation and available resources. Aspen Trails posted defensible space information on the neighborhood bulletin board in 2015; it was updated in 2016.

Non-subdivision property owners have invested thousands of dollars, working independently and hiring professionals to remove ladder fuels and underbrush to increase open spaces, improve defensible spaces, and install fire-resistant treatments on structures.

Community work days were organized to clean up slash and to complete specific mitigation projects.



CWPP AND WUI AREAS

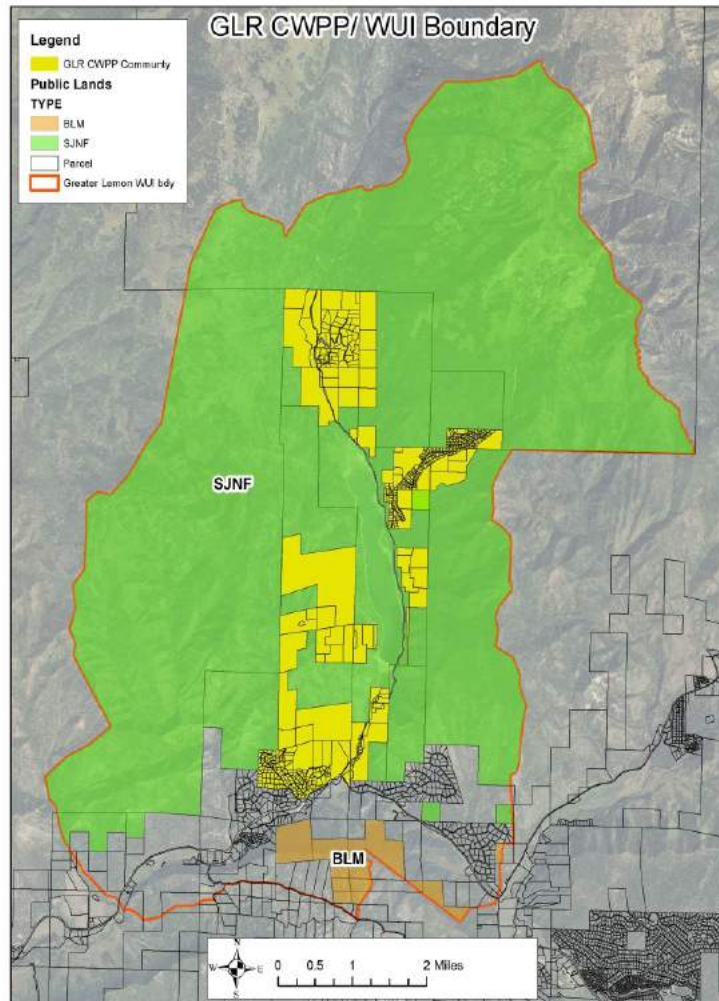
SECTION 2

AREA

2.1

The GLRCWPP encompasses a large geographic area in La Plata County along the Upper Florida River corridor. It includes eight (8) subdivision communities, individual private properties, U.S. Forest Service lands, U.S. Bureau of Land Management lands, U.S. Bureau of Reclamation resources, Florida Water Conservancy District water interests, City of Durango water interests, various streams, creeks, rivers, and other bodies of water.

The WUI boundary for the GLRCWPP was created to meet contiguous WUI boundaries identified in other CWPPs. The GLRCWPP WUI is contiguous to the Vallecito CWPP WUI and inclusive of the CWPPs developed by ‘Tween Lakes, Enchanted Forest, Los Ranchitos, and Forrest Groves. These boundaries were chosen to close gaps and ensure all communities, property owners, and stakeholders in the area were covered by a CWPP. Though it is recognized a fire could move from the Weminuche Wilderness into the WUI, the WUI boundary does not extend into the Wilderness because hazardous fuels treatments cannot occur within the Wilderness.



BOUNDARIES

2.2

The GLRCWPP WUI area is bounded by Missionary Ridge and Red Creek on the west, CR 245 on the south, the West Mountain ridgeline on the east, and the Weminuche Wilderness boundary on the north. (Also reference the GLRCWPP WUI Boundary map in the Appendix)

The major mountain ridges that create the watershed are Missionary Ridge to the west, Endlich Mesa to the northeast, North Fork Texas Creek Ridge to the south, West and Miller Mountains to the east.

The high mountain ridges in the Weminuche Wilderness of the San Juan Mountains to the north that contribute to the watershed in the area include Sheridan Mountain, Amherst Mountain, Organ Mountain, Mt. Valois, Aztec Mountain, McCauley Peak, Overlook Point, and the Chicago Basin.

	<i>Square Miles</i>	<i>Acres</i>	<i>Percentage</i>
Private Land in WUI	13	8,307	23%
Public Land in WUI	43	27,533	77%
Total GLRCWPP WUI	56	35,840	100%

PRIVATE LANDS

2.3

Private land within the GLRCWPP area covers 13 square miles or 8,307 acres, which is 23% of the total land area of the WUI.

Private land within the GLRCWPP is defined by eight (8) subdivisions, numerous non-subdivision parcels, and commercial properties.

Aspen Trails: Aspen Trails subdivisions #1, #2, and #3 are bordered by U.S. Forest Service land and large private parcels to the north, Los Ranchitos subdivision to the west, CR 240 to the south, and large private parcels to the east bordering CR 243. Aspen Trails was designed and developed as a seasonal, residential subdivision in 1966, and as such was gated off through the winter months. It has developed into a year-round community consisting of primary homes for permanent residents and second or vacation homes for non-residents, as well as a fair number of rental homes. Properties in the area do not have public utilities for water, sewer, or gas. Private water wells and cisterns provide water service; however production has declined in recent years causing some property owners to haul water. The Aspen Trails Water Company, Inc. provides seasonal water from May to October for a handful of properties. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. Electricity lines run overhead.



Picture Courtesy of Judy Bolton

The roads are steep requiring four-wheel drive vehicles in the winter, and in many places provide only single-lane access. Upper Pine River Fire Protection District Station #3 is adjacent to the Aspen Trails entrance. Aspen Trails consists of 158 land parcels ranging in size from .25-55 acres; 104 of the parcels (66%) have land improvement structures ranging in size from 192 square feet to 3308 square feet with appraised property values from \$3,000-\$484,000.

Trew Creek Estates: Trew Creek Estates is located on the north side of CR 240 and lies within the perimeter of the Aspen Trails subdivision. The development of Trew Creek began in 1978. Properties in the area do not have public utilities for water, sewer, or gas. Private water wells and cisterns supply water service. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. The roads are steep, requiring four-wheel drive vehicles in the winter, and in many places provide only single-lane access. Trew Creek Estates consists of 5 land parcels ranging in size from 3-6 acres; 4 of the parcels (80%) have land improvement structures ranging in size from 1232 square feet to 2360 square feet with appraised property values from \$55,000-\$270,000.

Haciendas de la Florida: Haciendas de la Florida is located on CR 243, below Lemon Dam. Properties in the area do not have public utilities for water or gas. Private water wells and cisterns supply water service. The properties in Haciendas de la Florida share a sewer treatment facility. Firewood, electricity, and/or private propane tanks provide heating. Haciendas de la Florida consists of 12 land parcels ranging in size from .5-1 acre; 7 of the parcels (58%) have land



improvement structures ranging in size from 1446 square feet to 4921 square feet with appraised property values from \$143,000-\$866,000.

Hunter's Ridge: Hunter's Ridge is located on the east side of CR 243 and is bordered by U.S. Forest Service and other private lands. Properties in the area do not have public utilities for water, sewer, or gas. Private water wells and cisterns supply water service. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. The roads are steep, requiring four-wheel drive vehicles in the winter, and in many places provide only single-lane access. Hunter's Ridge consists of 2 land parcels ranging in size from 12-22 acres; 1 of the parcels (50%) has land improvement structures estimated at 3750 square feet and appraised property values ranging from \$254,000 to \$545,000.

La Cherade Park: La Cherade Park subdivisions (I and II) are located on the east side of CR 243, off of Sawmill Road in Section 5, T36N. La Cherade Park is bordered by the U.S. Forest Service on the north, Sierra Verde subdivision and U.S. Forest Service lands on the east, and CR 243 on the west and south. Properties in the area do not have public utilities for water, sewer, or gas. Private water wells and cisterns provide water service for La Cherade I. La Cherade Park II has community water storage with a central well. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. Four-wheel drive vehicles are necessary for winter access. In many places, the roads provide only single-lane access. La Cherade Park consists of 43 land parcels ranging in size from .5-1 acre; 11 of the parcels (26%) have land improvement structures ranging in size from 192 square feet to 2640 square feet with appraised property values from \$11,000 to \$510,000.

Sierra Verde Estates: Sierra Verde Estates subdivisions #1, #2, and #3 are located on the east side of CR 243, northeast of Miller Campground. Sierra Verde Estates rests at an elevation between 8600-9100'. U.S. Forest Service lands border the community to the southeast and north. Properties in the area do not have public utilities for water, sewer, or gas. A spring-fed shared underground water delivery system provides primary water service. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. The roads are steep, requiring four-wheel drive vehicles in the winter, and in many places provide only single-lane access. A property owners' association provides road maintenance and snow removal. Sierra Verde Estates consists of 210 land parcels ranging in size from .5-3 acres; 34 of the parcels (16%) have land improvement structures ranging in size from 864 square feet to 3038 square feet with appraised property values from \$2,000-\$423,000.

Florida Park: Florida Park is located on the east side of CR 243. Properties in the area do not have public utilities for water, sewer, or gas. Private water wells and cisterns supply water service. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. The roads are steep, requiring four-wheel drive vehicles in the winter, and in many places provide only single-lane access. Florida Park consists of 16 land parcels ranging in size from 1-5 acres; 12 of the parcels (75%) have land improvement structures ranging in size from 460 square feet to 1922 square feet with appraised property values from \$39,000-\$255,000.

Wilderness Lake Mountain Estates: Wilderness Lake Mountain Estates is located at the northern end of CR 243. Wilderness Lake rests at an elevation between 8300-9300'. It is bounded to the north and east by U.S. Forest Service lands. Properties in the area do not have public utilities for water, sewer, or gas. Private water wells and cisterns supply water service. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. The roads are steep, requiring four-wheel drive vehicles in the winter, and in many places provide only single-lane access. The homeowner's association provides snow removal. Wilderness Lake Mountain Estates consists of 35 land parcels ranging in size from 3-10 acres; 23 of the parcels (66%) have land improvement structures ranging in size from 176 square feet to 4419 square feet with appraised property values from \$81,000-\$700,000.



Non-Subdivision Properties: There are 126 “non-subdivision properties” located within the GLRCWPP. These properties range in size from 1-510 acres. Many of these properties are classified with agricultural and livestock grazing permits, the results of which provide some fuels reduction to these properties. These properties do not have public utilities for water, sewer, or gas. Private water wells and cisterns supply water service. Private septic systems provide sewer. Firewood, electricity, and/or private propane tanks provide heating. The roads are steep, requiring four-wheel drive vehicles in the winter, and in most places provide only single-lane access; 49 of the parcels (39%) have land improvement structures ranging in size from 560 square feet to 6600 square feet with appraised property values from \$2,000-\$1,650,000.

PUBLIC LANDS

2.4

Public land within the GLRCWPP WUI area encompasses 43 square miles or 27,533 acres, which is 77% of the total land area of the WUI.

The public lands are mountainous and forested. The terrain is very steep, which increases the risk of fire encroaching over ridges. History shows that because of the terrain, the area is prone to lightning strikes.



Recreation on public lands plays a large role in the community: fishing (both summer and winter-ice), boating, kayaking, paddle boarding, swimming, hunting, backpacking, hiking, rock climbing, camping, biking (both motor and peddle), snow-kite skiing, cross-country skiing, snow-shoeing, snowmobiling, sledding, bird watching, photography, and star-gazing. The San Juan Sledders Club grooms several miles of snowmobiling trails during the winter as the area serves as a gateway to the San Juan Mountains where opportunities to enjoy the outdoors abound.

Commercial uses of public lands also play a large role in the community with numerous ranching activities (livestock and agricultural), outfitters (hunting and fishing), and various types of grazing. Activities like grazing on public lands serves as a source of fuels reduction in areas that would normally receive little, if any, mitigation treatment.

The public land stakeholders are the U.S. Forest Service, the U.S. Bureau of Land Management, the U.S. Geological Survey, the U.S. Bureau of Reclamation, the Colorado Division of Water Resources, the Florida River Water Conservancy District water interests, La Plata County Road and Bridges Department, the City of Durango, and the City of Durango Utilities Department (Waterworks).

The U.S. Forest Service operates three (3) campgrounds (Miller, Florida, Transfer Park) and one (1) day-use area (Upper Lemon) which are utilized by seasonal tourists and local residents traveling in recreational vehicles, off-road vehicles, trucks, and campers.

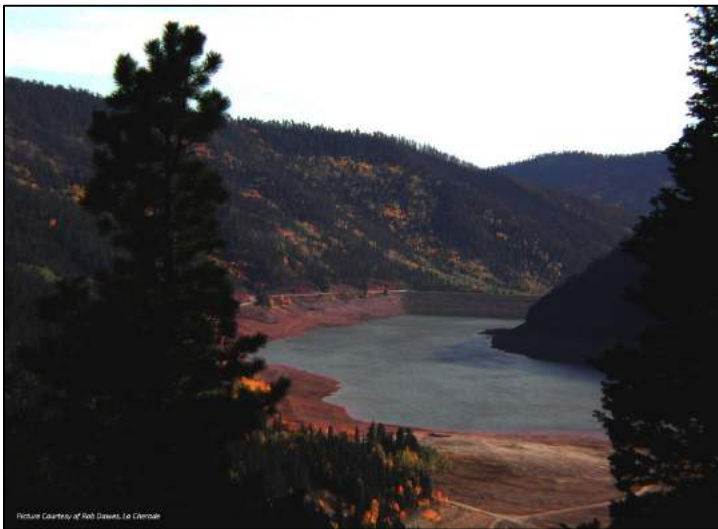
The mountain ridges of the GLRCWPP WUI create eight named watersheds (*also see the Watershed Map in the Appendix*):

- Coon Creek – Animas River
- Grimes Creek
- Lemon Reservoir
- Red Creek – Florida River
- Red Creek – Los Pinos River
- Texas Creek – Los Pinos River
- Vallecito Reservoir
- Virginia Gulch – Florida River

Water collected in Lemon Reservoir which flows through Lemon Dam serves as drinking water to the City of Durango and the communities of Edgemont and Edgemont Highlands, and supplies livestock and agricultural water to much of La Plata County, specifically lands on the Florida Mesa.

History of Lemon Dam and Reservoir

The Florida Water Conservancy District was established in 1948 under Colorado state statutes as a political subdivision for the Florida Watershed with the task of creating water storage for the watershed. Calculations were made for the volume of water needed to irrigate the Florida Mesa agricultural corridor. The District worked with the Bureau of Reclamation to acquire land through land fees from private owners. Lemon Dam was built between 1948-1963 and is owned by the Bureau of Reclamation (U.S. Department of the Interior). The Florida Water Conservancy District manages, administers, and operates the Dam. Through a Memorandum of Understanding, the U.S. Forest Service oversees the land above the “take line” of the Reservoir. The Keeper of the Dam resides in the house and manages the equipment barn south of the Dam on CR 243, and has overseen the Florida Water Conservancy District’s Dam operations for the past 40 years.



Picture Courtesy of Rob Dawalt, La Chorro

Lemon Dam is the principal feature of the Florida Water Project, which is a participating project of the Colorado River Storage Project. Floodwaters of the Florida River are stored in the Reservoir formed by the Dam, and regulated releases provide supplemental irrigation water for 19,450 acres. Water is released from the Reservoir as needed and conveyed in the natural river channel to the heads of the various downstream canals and ditches

that divert the flow and distribute the water to project lands. In addition to the construction of Lemon Dam, Bureau of Reclamation work included rebuilding the Florida Farmers Diversion Dam, enlarging the Florida Farmers Ditch, enlarging the Florida Canal, and building a new lateral system to serve about 3,360 acres of land on the southeast portion of Florida Mesa. Project funds were advanced to the Florida Water Conservancy District to rehabilitate, enlarge, and extend the portions of the Florida Farmers Ditch and Florida Canal distribution systems that serve remaining lands on Florida Mesa.

Lemon Dam, a zoned earth-fill structure with a structural height of 284 feet and a crest of 1,360 feet, lies at approximately 8,200’ in elevation. The Dam embankment has a maximum base width of 1,170 feet, a crest width of 30 feet, and contains a volume of 3,042,000 cubic yards of earth and rock materials. The spillway is on the right abutment of the Dam and consists of an approach channel, concrete inlet structure, concrete ogee crest section, open concrete chute, concrete stilling basin, and outlet channel discharging into the Florida River. The design capacity of the spillway is 9,600 cubic feet per second. The outlet works is also in the right abutment of the Dam and consists of an approach channel, a concrete intake structure, and a concrete-lined tunnel with gate chamber for two 2.5-foot-square high

pressure gates. The 9-foot horseshoe-shaped tunnel has a design capacity of 910 cubic feet per second. Lemon Reservoir is approximately 0.5 mile wide and three miles long with a surface area of 622 acres. The total capacity is 40,146 acre-feet, of which 39,030 acre-feet are active conservation.

Florida Farmers Diversion Dam and Ditches

Major rehabilitation of the Florida Farmers Diversion Dam was conducted in 1962-63. This included construction of an earth-fill section for the Diversion Dam approximately 500 feet long at the crest, and construction of an overflow weir, headworks, sluiceway, wingwall, and fish screens. During the same construction period, the Florida Farmers Ditch was enlarged and relocated along 3.9 miles, and Florida Canal was enlarged and relocated over 1.8 miles. The first irrigation water was delivered in 1964.

Benefits

Lemon Reservoir benefits to the area include irrigation, recreation, and flood control. Irrigated lands are used largely for the support of livestock and agricultural enterprises. Climatically adaptable crops such as small grains, alfalfa, pasture, and corn are the principal products. Recreation facilities at Lemon Reservoir were constructed by the U.S. National Park Service and are operated by the U.S. Forest Service. Flood control benefits result from reduced snowmelt flooding due to the operation of Lemon Reservoir.

FIRE PROTECTION IN THE AREA

2.5

The Upper Pine River Fire Protection District has one (1) unmanned station at the entrance of the Aspen Trails subdivision, Fire Station #3. This Station currently serves the upper CR 240 corridor and the entire CR 243 corridor. Volunteer firefighters, many of whom work outside of the area, staff the station and may not be readily available.



Because of the distance from the Aspen Trails Station, much of the area to the north of the Lemon Dam

is classified with an Insurance Services Office (ISO) Public Protection Classification (PPC) rating of 10, the highest (and least desired) classification (rating scale of 1 being the best and 10 carrying the most risk). A fire rating of ISO 10 means the response times to both medical and fire emergencies is significantly longer and puts at risk the lives and assets in the area. One of the recommendations for the GLRCWPP includes constructing a fire station at the north end of Lemon Reservoir to better reach residents and lands further into the GLRCWPP area and GLRCWPP WUI areas.

The nearest manned fire station to the GLRCWPP area is Station #5 at Forest Lakes Estates. Distances and estimated response times between Station #5 (manned), Station #3 (unmanned), Station #9 (proposed), and the northern-most end of the GLRCWPP area are:

From	To	Mileage	Response Times (estimated)
Station 5 (<i>manned</i>)	Station 3 (<i>unmanned</i>)	5.2 miles	8 minutes
Station 5 (<i>manned</i>)	Station 9 (<i>proposed manned</i>)	9.7 miles	25 minutes
Station 5 (<i>manned</i>)	north end of CWPP (<i>Transfer Park</i>) *	13.2 miles	45 minutes
Station 3 (<i>unmanned</i>)	north end of CWPP (<i>Transfer Park</i>) *	8.3 miles	35 minutes
Station 3 (<i>unmanned</i>)	Station 9 (<i>proposed manned</i>)	5.7 miles	10 minutes

**Public access and recreation activities occur beyond these mileages and response times.*

The La Plata County Sheriff's Office provides first responder and law enforcement response to the GLRCWPP and the GLRCWPP WUI areas.



Picture Courtesy of Durango Herald

The La Plata County Office of Emergency Management provides emergency coordination for the GLRCWPP and the GLRCWPP WUI areas.

The San Juan National Forest, Columbine Ranger District, provides resources for fire mitigation and fire protection on U.S. Forest Service lands within the GLRCWPP and the GLRCWPP WUI areas.

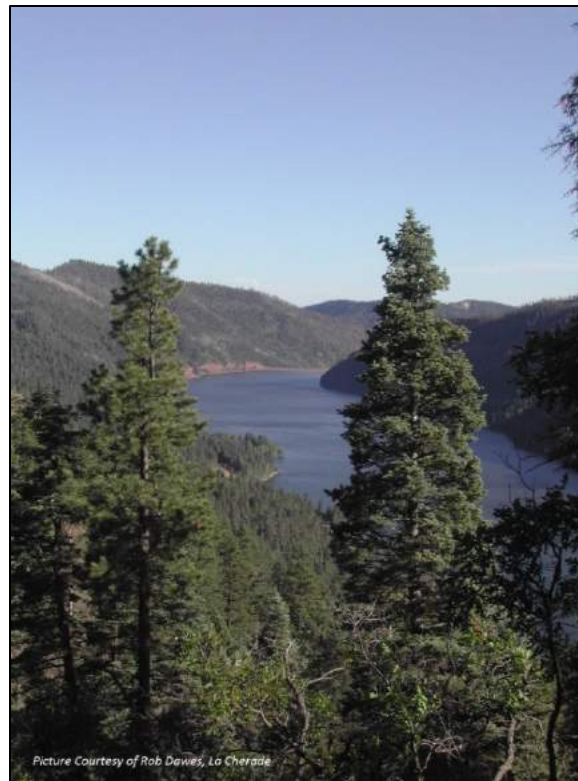
The Bureau of Reclamation and the Florida Water Conservancy District coordinate post-fire erosion control.



The Healthy Forests Restoration Act of 2003 (HFRA)

The Greater Lemon Reservoir Community Wildfire Protection Plan (GLRCWPP) has been developed in response to the Healthy Forests Restoration Act of 2003 (HFRA). This legislation established unprecedented incentives for communities to develop comprehensive wildfire protection plans in a collaborative, inclusive process. Furthermore, this legislation directs the Departments of Interior and Agriculture to address local community priorities in fuel reduction treatments, on both federal and non-federal lands.

The HFRA emphasizes the need for federal agencies to collaborate with communities in developing hazardous fuel reduction projects and places priority on treatment areas identified by communities themselves through development of a Community Wildfire Protection Plan (CWPP). Priority areas include the wildland-urban interface (WUI), municipal watersheds, areas impacted by windthrow or insect or disease epidemics, and critical wildlife habitat that would be negatively impacted by a catastrophic wildfire. In compliance with Title 1 of the HFRA, the CWPP requires agreement among local government, local fire departments, and the state agency responsible for forest management (in Colorado, the Colorado State Forest Service [District Forester]). The CWPP must also be developed in consultation with interested parties and the applicable federal agency managing the land surrounding the at-risk communities.



Picture Courtesy of Rob Dewes, La Cherade

County Annual Operating Plan

The County, the Colorado Division of Fire Prevention and Control, and federal land management agencies approve and operate under the guidelines set forth in an Annual Fire Operating Plan (AOP) for wildfire. This plan also provides acknowledgement by the Upper Pine River Fire Protection District, the fire protection district with jurisdiction in La Plata County. The AOP addresses how the participating parties will work together in regard to wildfire prevention, preparedness, response, and payment. Included in the plan are provisions for mutual aid between agencies, significantly enhancing initial and extended attack capabilities through the rapid convening of fire protection resources for managing a wildfire.

The La Plata County AOP is tiered to the “Agreement for Cooperative Wildfire Protection in La Plata County” between La Plata County and the Division of Fire Prevention and Control in the

Colorado Department of Public Safety. This in turn is tiered to the “Colorado Statewide Cooperative Wildland Fire Management and Stafford Act Response Agreement” between the federal resource management agencies and the Division of Fire Prevention and Control.

La Plata County is a voluntary member of the Colorado Emergency Fire Fund (EFF), which helps the County manage and pay for wildfires that exceed its ability to control. The fund is comprised of annual fees assessed to each member county. The County must request EFF designation for an incident that meets EFF criteria, and then the Director of Division of Fire Prevention and Control, or his designee, must approve it.

Resource Management Plan/ Fire Management Plan

The San Juan National Forest and San Juan Resource Area Land and Resource Management Plan and associated Fire Management Plan describe the role of fire in the native ecosystems in southwest Colorado. These plans outline the strategies that the U.S. Forest Service and the Bureau of Land Management will utilize to manage wildland fire and fuels on these federal lands in southwest Colorado. The San Juan National Forest and San Juan Resource Area Fire Management Plan (2007) specifically describes objectives and strategies to manage fire and fuels on federal lands near communities within the wildland-urban interface.

The GLRCWPP tiers to the La Plata County CWPP which was approved in 2006. The GLRCWPP is consistent with the goals and strategies described within the La Plata County CWPP and provides further strategic and tactical direction specific to wildfire protection and mitigation for the Greater Lemon community.

The HFRA required the Colorado State Forest Service to establish minimum standards for the development of CWPPs in Colorado, and the Colorado State Forest Service must approve any and all CWPPs to ensure that they meet these minimum standards. Please see Colorado’s Minimum Standards for CWPPs at:

http://csfs.colostate.edu/pdfs/FINAL_Revised_CWPP_Minimum_Standards_111309.pdf

Electronic files of approved CWPPs, in addition to educational and reference materials, can be found on the Colorado State Forest Service website at:

<http://csfs.colostate.edu/pages/community-wf-protection-planning.html>



PARTNERS AND COMMITTEES

SECTION 4

Core Planning Group

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John Ey, Florida Water Conservancy District
Animas Museum in Durango, volunteers and staff, research

Additional and Infrastructure Stakeholders

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Upper Pine River Fire Protection District
Colorado State Forest Service
U.S. Forest Service
Columbine Ranger District
U.S. Bureau of Land Management
U.S. Bureau of Reclamation
U.S. Geological Survey
La Plata County Office of Emergency Management
Florida Water Conservancy District
Natural Resources Conservation Service
Colorado Division of Water Resources
Colorado Department of Health and Environment
La Plata County, Road and Bridges Department
City of Durango Utilities Office (Waterworks)
City of Durango and the Edgemont Community
La Plata County Geographic Information Systems (GIS)
Army Corps of Engineers
La Plata Electric Association
CenturyLink
Verizon
AT&T
T-Mobile
Sprint
Ranchers of Southwest Colorado
Agricultural producers of Southwest Colorado
GLR area commercial outfitters
GLR area business owners



THE PLANNING PROCESS

SECTION 5

The GLRCWPP efforts began in February 2016. Area residents and community stakeholders met with subject matter experts from FireWise of Southwest Colorado, the Colorado State Forest Service, and the U.S. Forest Service. Additional stakeholders participated with specific and relevant information.

A general schedule for meetings was set for the second Wednesday of every month. Meetings were held in various locations, as available, including local fire department facilities, emergency management facilities, public libraries, and property owners' homes. Meeting discussions were focused on defining the CWPP and WUI boundaries, coordinating with and educating area residents, planning mitigation projects, and developing long-term healthy forest and fire safe plans.

Methods of communication to GLRCWPP fulltime and seasonal property owners and area stakeholders were developed to provide a platform of interaction, education, updates and progress of the CWPP. These methods included the development and management of a website, creation and management of a Facebook page, a community email account, informational emails to property owners, and a mass mailing to all property owners of the area providing information on the CWPP. In all interactions, stakeholders were encouraged to work together on fire concern, as it is indeed, a litany of projects that no one can effectively resolve alone.

Field trips to locations above and below Lemon Dam were conducted in May and June 2016 to bring people together for education on shared concerns of fire risk and to encourage collaboration



Picture Courtesy of Judy Bolton

with area property owners and stakeholders. These events served to provide an opportunity to discuss and review pre-wildfire mitigation and post-mitigation areas, erosion, forest restoration, and to review common values at risk. The Upper Pine River Fire Protection District brought a fire truck to demonstrate road accessibility challenges (slope, drainage, signage) including variations of road widths and end of road turnarounds on community roads. Participants noted trees overhanging the roads, the density of the structures, the density of the tree stands, and powerline locations with

respect to the roads and trees. Colorado State Forest Service personnel provided recommendations and guidance on tree crown distances and tree-limbing techniques. Water drainage with respect to debris flow, flooding roads, and falling rocks were discussed and reviewed.

A Community Wildfire Preparedness Day “Mitigation 101” was held in May 2017 to engage and educate area residents on the safe use of mitigation tools, techniques for limbing and pruning vegetation, Home Ignition Zones, evacuation planning, slash pile treatments, “Code Red” registration, and forest health assessments.

(See Appendix for meeting notes, field trip, and event flyers.)





DESCRIPTION OF THE COMMUNITY

SECTION 6

NATURAL ENVIRONMENT

6.1

The steep, mountainous terrain hosts a variety of vegetation including mixed conifer and aspen forest with cottonwood, Gambel oak and other shrubby vegetation. The area abounds with wildflowers, native grasses, wild holly, mushrooms, cat-tails, and various lichens. Abundant wildlife including elk, deer, moose, bears, mountain lions, bobcats, lynx, wild turkeys, nesting osprey, eagles, several species of hawks, Peregrine falcons, heron, grouse, quail, bees, marmots, rabbits, owls, turkey vultures, coyotes, squirrels, chipmunks, ermine, raccoons, skunks, porcupines, Kokanee salmon, trout (Brown, Brook, Rainbow), ducks, and Canadian geese reside in the forest and lands of the area and would be negatively impacted by a catastrophic wildfire.

The Florida River and Lemon Reservoir are the main water bodies, but there are also many mountain fed creeks and streams: Shearer Creek, Trew Creek, Pound Creek, Miller Creek, Willow Creek, Waldner Creek, Lone Tree Creek, McCoy Creek, and Blodgett Creek, to name a few. Due to the area geology, there are also year-round and seasonal artesian springs and ponds.

The area sees an average of 120 inches of snowfall each year. Winter conditions can cause avalanches, road closures, and power outages. Monsoon season typically occurs in July and August when it is not unusual to experience wash outs of roads and driveways because of heavy rains. These conditions create challenges in reaching individuals for medical emergencies and for providing assistance to the elderly and disabled population of the area.



POPULATION, HOMES, VACANT PARCELS

6.2

Information gathered from the La Plata County Geographic Information Systems (GIS) indicates the population of the GLRCWPP WUI area was 782 as determined in the 2010 Census. The current estimated population of the GLRCWPP area is 657 or approximately 1% of La Plata County's population. But, during the summer months, population can increase 150% or more as seasonal residents, vacationers, and tourists gravitate to the GLR area.

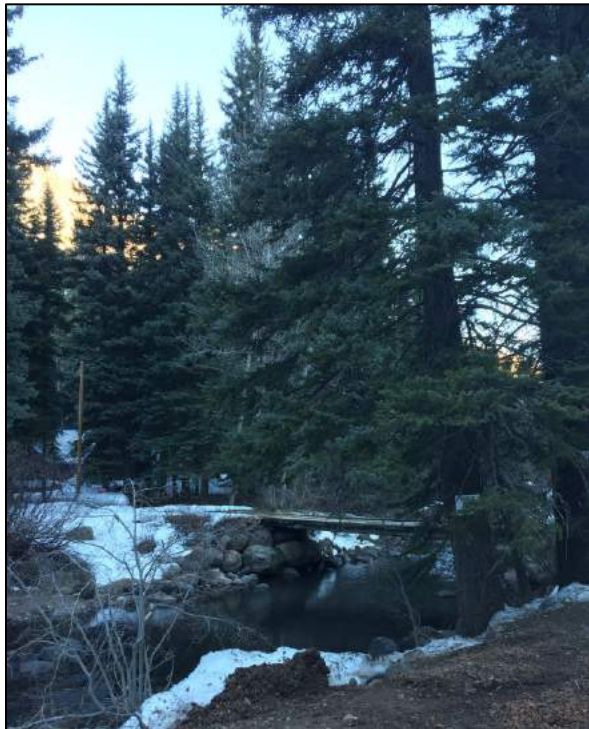
Information gathered from the La Plata County Assessor's Office indicates there are approximately 650 parcels of private property in the defined boundaries of the GLRCWPP. Approximately 260

parcels of private property have homes or significant structures on these parcels. These land improvements range in value from \$2,000-\$1,650,000. (For more specific information on homes and other structures in the area, please see the Values at Risk Section below.)

ROAD SYSTEM AND LINKAGES

6.3

County Roads (CR) 240 and 243 and Forest Service Roads (FSR) 596 and 597 are the main corridors for the Greater Lemon area. CR 240 follows the Florida River and provides east and west ingress and egress. County Road 243 (which becomes FSR 596 and 597) follows the Lemon Reservoir and Florida River corridors to the San Juan National Forest. There are no secondary access roads for this corridor. It should be noted there is no secondary route to evacuate residents on CR 243. The entire north end of the Greater Lemon area is simply a series of roads off of dead end roads, with most emptying into either CR 243 or FSR 596, the latter of which also empties into CR 243. The further a resident lives from an access route, the more difficult and dangerous the evacuation could



be. (Developing an Evacuation Hazard Map has been identified on the list of proposed activities). Even if the evacuation routes were safe to travel, evacuation could be a serious problem during an emergency. CR 243 was closed for a time during the Missionary Ridge Fire evacuation. If a wildfire, dense smoke, or incoming emergency equipment cut off a section of the evacuation route, there would be no way to evacuate some parts of the Greater Lemon area. This limited emergency ingress and egress poses a serious risk to residents' and visitors' safety and the ability of emergency management to respond to a wildfire.

Roadways within the area are a mixture of dirt, gravel road base, and asphalt. Most of the driveways in the area can only sustain one vehicle going in one direction. There are twelve (12) public and private bridges in the area. Three (3) of the bridges are public, and nine (9) of the bridges are managed by private residents.

CR 240 enters the GLRCWPP area from the west approximately 13.5 miles from Durango. The entrance to the Aspen Trails neighborhood begins at Trew Creek Drive, which extends north for 1.4 miles. The Aspen Trails community is entered and exited at Trew Creek Drive. Sierra Drive splits off of Trew Creek approximately .125 miles from the entrance and winds northwest up a steep switchback. The only secondary egress is through Lobo Drive. Sierra Drive connects to Bear Run on the north end of the subdivision and ties back into Trew Creek. Aspen Drive branches off of Trew Creek .25 miles from the entrance and runs east-northeast as it climbs steeply into the neighborhood. The northeast side of the subdivision was impacted most during the Missionary Ridge Fire. There is not a secondary egress route from this side of the subdivision, which is a concern to residents given the size of the subdivision and the number of current residents and parcels still to be developed.

The Greater Lemon area continues along CR 240 from Trew Creek Drive for approximately 1 mile to the start of CR 243. The Haciendas de la Florida neighborhood extends along the Florida River for the first 0.5 mile along CR 243. CR 243 then proceeds 1.7 miles to the top of Lemon Reservoir Dam. At CR 243 mile-marker 3.4 (Miller Creek), Sawmill Road accesses the La Cherade Park neighborhood, Sierra Verde subdivision, and other private properties. From Sawmill Road, Lakeview Road leads into Sierra Verde Drive which follows Miller Creek and terminates after 2.8 miles.

CR 243 continues along the eastern shore of Lemon Reservoir and merges into FSR 596 at mile marker 5.7. FSR 596 then leads north to the Florida Park neighborhood ingress at mile marker 6.0 and enters the Florida Park neighborhood on Park Drive. FSR 596 continues past the Florida Park neighborhood to the Wilderness Lake Mountain Estates entrance, located at mile marker 6.3. The Wilderness Lake Mountain Estates neighborhood is entered on Wilderness Drive. The outermost residence of the GLRCWPP is 8.0 miles from the CR 243 intersection at CR 240. FSR 596 continues past the outermost residence to the entrance of the San Juan National Forest. FSR 596 diverts west and north for 1.7 miles, crossing the Florida River, passing the Florida Campground, and terminating at the Transfer Park Campground. At the entrance of the San Juan National Forest, FSR 597 extends north and east for 11.6 miles to an eastern ridge above the Florida River near Endlich Mesa.

LAND USES

6.4

Many of the land uses in the GLRCWPP area center around Lemon Reservoir (Lemon Lake). Lemon Dam, an earthen structure which creates the Reservoir is a project of the U.S. Bureau of Reclamation and was completed in 1963. The Dam is 284 feet high and 1360 feet wide at its crest. The Dam impounds the Florida River for flood control and irrigation water storage, operated by the local Florida Water Conservancy District to regulate and provide irrigation water to farmers downstream. Lemon Reservoir is about three miles long and a half a mile wide, has a total service area of 622 acres, and a total water storage capacity of 40,145 acre feet. The Reservoir serves as a primary source of drinking water for the City of Durango, as a primary source of livestock and agricultural water for La Plata County, and as flood control for areas above and below the Dam.

Recreation plays a large role in the community: fishing (both summer and winter-ice), boating, kayaking, paddle boarding, swimming, hunting, backpacking, hiking, rock climbing, camping, biking (both motor and peddle), snow-kite skiing, cross-country skiing, snow-shoeing, snowmobiling, sledding, bird watching, photography, and star-gazing. The San Juan Sledders Club grooms several miles of snowmobiling trails during the winter as the area serves as a gateway to the San Juan Mountains where opportunities to enjoy the outdoors abound.





Picture Courtesy of V and J Townsend

Other land uses in the area include residential, commercial (commercial market, commercial lodging, commercial outfitters, commercial fishing), home-based businesses, grazing and ranching (livestock and agricultural activities).

There are three (3) U.S. Forest Service campgrounds (Miller, Florida, Transfer Park) and one (1) U.S. Forest Service day-use area (Upper Lemon) which are utilized by seasonal tourists and local residents traveling in recreational vehicles, off-road vehicles, trucks, and campers.



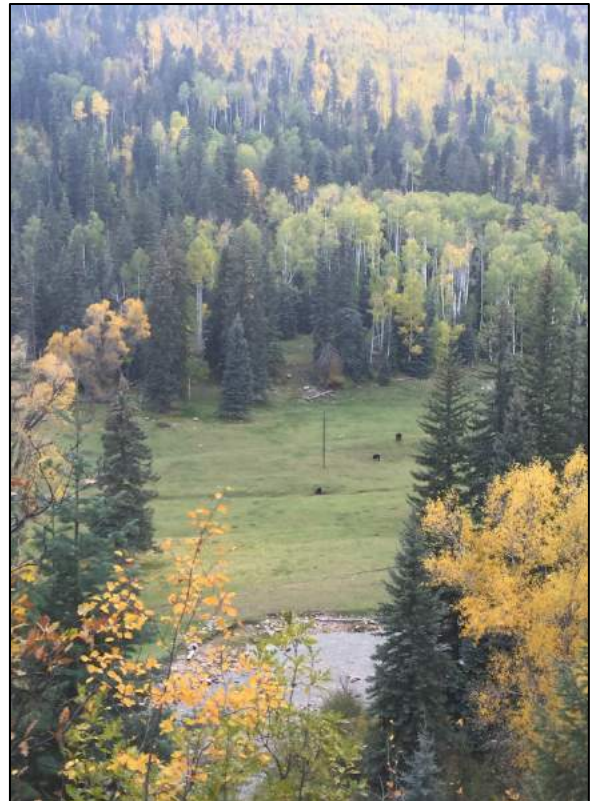
FIRE HAZARD CONDITIONS

7.1

The terrain in the GLRCWPP and GLRCWPP WUI areas are mountainous, steep, heavily forested, and have been negatively affected by persistent drought. Fire history over the past 20 years has shown this to be true, and the current climate shifts to lesser amounts of rainfall and snow will only increase the general risk of wildfires. The volume of dead and downed fuel in the surrounding forests from insect and disease mortality, changes in timber sales, and decades of fire suppression are other factors contributing to an increase in the level of risk.

A 2015 U.S. Forest Service and Colorado State Forest Service aerial survey found that the mountain pine bark beetle epidemic, which so negatively impacted southwest Colorado in the early 2000s, seemed to be over, but that it was too early to tell whether the epidemic of a related insect, the spruce beetle, had peaked. Over a two-decade period, more than 5,300 square miles of Colorado forest had been affected by beetle epidemics. These insect epidemics are significant in that many trees were left dead and vulnerable to lightning strikes, fire, and high winds due to their weakened state. Downed trees affect firefighter access to these areas to defend against a wildfire.

A significant factor in fighting wildfire is wind. High fire season in La Plata County, and subsequently the GLRCWPP area, is during the months of June and July. While March, April, and May see the highest winds in La Plata County, winds in June and July are also significant. The area often experiences wind gusts and micro-bursts in excess of 50 mph. Afternoon thermals across Lemon Reservoir also contribute to regular wind in the area.



Seasonal weather patterns, temperatures, and humidity levels also affect fire behavior. All extremes of temperature and humidity are experienced in the area – from the hot, dry semi-desert to the cold snow-capped mountains. The months of lower fire risk occur in the winter, and while the area enjoys upwards of 120 inches of annual snowfall, snowfall is significantly lower and the temperatures significantly higher than historical levels. Late summer can also provide a reprieve from fire danger as monsoonal (rain) flows bring moisture to the terrain. The hottest months with the lowest humidity for the area are June and July. Temperatures during these months reach into the 80s with average humidity levels of 30%.

VEGETATION

Natural vegetation within the nearly 36,000 acre GLRCWPP WUI is comprised of aspen, mixed conifer, ponderosa pine, and at higher elevations spruce-fir, with riparian vegetation along the lakeshore and streams. There are also scattered areas of mountain shrub, mountain grass, and meadow. Because of the Missionary Ridge Fire of 2002, successional stages have been set back in many areas and other vegetation than that shown on pre-fire vegetative type maps now dominates.

On the southern end of the WUI, in the areas of Aspen Trails and Los Ranchitos subdivisions and extending east, vegetation generally consists of drier mixed conifer, ponderosa, Gambel oak, mountain shrub mix and sections of agricultural land. On the west side of Lemon Reservoir and extending to the north end of the WUI, stands of wet mixed conifer, primarily Douglas fir/aspen mix, are prominent in the lower elevations with stands of pure aspen in the higher elevations and patches of Spruce/fir mix scattered throughout. Stands of predominantly ponderosa pine and



Picture Courtesy of Rob Dawes, La Cherade

Douglas fir with areas of riparian vegetation and grass/forb rangeland follow the Florida River corridor on the north end of the Reservoir up toward the Wilderness Lake Estates subdivision where vegetation becomes primarily ponderosa pine/dry mixed conifer. Vegetation on the east and northeast side of the Reservoir is comprised of both wet and dry mixed conifer types in the lower elevations including the areas of the La Cherade and Sierra Verde subdivisions with stands of aspen, spruce/fir and alpine meadows as elevation rises going toward the northeast edge of the GLR WUI.

Fire danger is variable within the prominent wet/dry mixed conifer types found within the GLR WUI and is primarily dependent on three factors including fuel makeup and loading, topography and weather. Mixed conifer stands that are relatively open with less canopy closure and sparser understory are generally more likely to experience lower severity ground fires with individual tree and small clump torching and should be the goal in managing fuels going forward. However, much of the mixed conifer type within the GLR WUI is denser with a large component of wet mixed conifer type that is more likely to have abundant and contiguous understory ladder fuels and is likely to facilitate ignitions and potential crown fire spread. Additionally, the presence of abundant topographical features within the WUI including slopes that can cause fuels above to be preheated by fire below and saddles, ridges, draws and canyons that can funnel and accelerate fire spread should constitute careful consideration and prioritization in planning fuel mitigation projects in the future.

FIRE BEHAVIOR

Aspen: Clones of aspen (*Populus tremuloide.s*) are commonly thought of as fire resistant. They can be a barrier to a wildfire, except when understory vegetation is cured or otherwise very dry, which can allow a fire to burn through the clone and kill the stems. As a result of the Missionary Ridge Fire, aspen, which commonly reforests burned areas when there is an existing aspen component or a

nearby seed source, is growing back into many severely burned areas. This should make these areas more fire resistant in the future, especially after down fire-killed conifers decompose and surface fuel loadings are lower.

Expected Fire Behavior: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; spotting generally rare, short range.

Mixed Conifer: The mixed conifer type is where a mixture of mid-elevation tree species occupy 50% or more of the vegetative cover. The mixed conifer type is divided into two categories: warm/dry and cool/moist. The warm/dry generally has a higher component of ponderosa pine (*Pinus ponderosa*) and Rocky Mountain juniper (*Juniperus scopulorum*), in addition to other conifer including Douglas fir (*Pseudotsuga menziesii*), white fir (*Abies concolor*), and blue spruce (*Picea pungens*).

The cool/moist typically has fewer ponderosa pine and juniper and more white fir, subalpine fir (*Abies asiocarpa*), Douglas fir, blue and Engelmann spruce (*Picea pungens*, *Picea Engelmannii*), and southwestern white pine (*Pinus strobiformis*). Although not a conifer, aspen can be a component of both mixed conifer classifications. In general, the warm/dry often occurs at the lower elevational range of the mixed conifer type, and on the warmer and drier south



and west facing aspects at higher elevations. The cool/moist occurs at the higher elevational range of the type, or on the cooler and more shaded east and north facing aspects at lower elevations. The warm/dry tends to have a more frequent fire return interval sometimes approaching that of the ponderosa pine type. The cool/moist tends to have a less frequent fire return interval sometimes approaching that of the spruce-fir type.

Expected Fire Behavior: Crown Cover <35%: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; spotting generally rare, short range. Crown Cover 35% to 55%: Moderate intensity – longer duration; intermittent flare-ups occurring to many feet above tree tops; short and medium range spotting common; behavior between flare-ups similar to <35% crown cover. Crown Cover >55%: High intensity – long duration; flare-ups higher than trees frequent to continuous; spread up to several hundred acres per hour; fire front impassable; spotting of several hundred yards common, possible to a mile or more.

Ponderosa Pine: The ponderosa pine type is where ponderosa pine occupy 50% or more of the tree cover. It is considered a fire-adapted vegetative type where fire has traditionally played a significant role in “managing” vegetation. Fire intervals are characteristically frequent, averaging from 5 to 20 years in many areas. This fire frequency traditionally kept the pine forest more open

and the brush low. With aggressive fire suppression beginning in the early 1900's and the lack of other forest management treatments, many of the pine stands have become overly dense, accompanied by an ever increasing dead and living ladder fuels component accumulating beneath their crowns. Much of the second growth ponderosa pine is around 100 years or so in age, but the larger, old growth "yellowbark" pine are 200 years old or more. Where forest management treatments have occurred, stands are generally between 60 and 120 square feet of basal area per acre, but are often considerably higher where no treatment has occurred.

Although ponderosa pine is regarded as a "fire adapted" species because of its thick insulating bark and higher crowns that often allow it to survive fire, it is much more vulnerable when growing in dense stands that can support crown fire, where there are tall ladder fuels beneath or near the tree crowns, and where there are enough surface fuels beneath the crowns to generate significant heat as the fire moves through the stand on the ground, thus scorching (desiccating but not actually burning) the crowns. Very hot surface fires under dry soil conditions can also damage pine root systems, which can result in tree mortality even though other portions of the tree were not impacted. This happened to some very large, old specimens during the Missionary Ridge Fire. Although these majestic trees had apparently survived the fire, in the months that followed many slowly began to decline and die, sometimes accelerated by bark beetle infestation, due to severe heat damage to their root systems.

Expected Fire Behavior: Crown Cover <35%: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-4- acres per hour; spotting generally rare, short range. Crown Cover 35% to 55%: Moderate intensity – longer duration; intermittent flare-ups occurring to many feet above tree tops; short and medium range spotting common; behavior between flare-ups similar to <35% crown cover. Crown Cover >55%: High intensity – long duration; flare-ups higher than trees frequent to continuous; spread up to several hundred acres per hour; fire front impassable; spotting of several hundred yards common, possible to a mile or more.



Spruce-Fir: The spruce-fir type is Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*, often corkbark fir in SW Colorado, var. *arizonica*) occupy 50% or more of the tree cover. Other species may occur within the ecosystem, particularly aspen. A variety of shrubs and forbs are found in the understory. Due to the high country's typically wetter and cooler conditions, the fire frequency in the high elevation spruce-fir is typically very long (>200 years). Often, centuries can pass without a significant wildfire, but when one finally occurs during an extremely dry year, it can result in a stand replacement event. Since fire is less of a vegetation management factor in the

spruce-fir type, forest insects such as the spruce beetle are thought to be the primary natural regulator of this forest type. There is an ongoing spruce beetle epidemic occurring in the San Juan Mountains that has heavily impacted much of the Weminuche Wilderness Area and the US Highway 160 corridor over Wolf Creek Pass. Aerial detection surveys show that the beetle epidemic is working its way west, infesting spruce in the high country above the Florida River Valley and its sub-drainages in the Greater Lemon area.

Expected Fire Behavior: Crown Cover <35%: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; spotting generally rare, short range. Crown Cover 35% to 55%: Moderate intensity – longer duration; intermittent flare-ups occurring to many feet above tree tops; short and medium range spotting common; behavior between flare-ups similar to <35% crown cover. Crown Cover >55%: High intensity – long duration; flare-ups higher than trees frequent to continuous; spread up to several hundred acres per hour; fire front impassable; spotting of several hundred yards common, possible to a mile or more.

Riparian: Riparian is vegetation in areas immediately adjacent to aquatic ecosystems which support terrestrial vegetation. It consists of plant species that require more moisture and is typically found where there is a shallow water table. In the Greater Lemon area it is commonly comprised of



Picture Courtesy of V and J Townsend

narrowleaf cottonwood (*Populus agustifolia*), boxelder (*Acer negundo*), blue spruce (*Picea pungens*), hawthorn (*Crataegus spp.*), thinleaf alder (*Alnus incana*), water birch (*Betula occidentalis*), chokecherry (*Prunus virginiana*), woods rose (*Rosa woodsii*), redosier dogwood (*Cornus stolonifera*) and a variety of streamside shrub willows (*Salix spp.*).

Expected Fire Behavior: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; spotting generally rare, short range.

Mountain Shrub: The mountain shrub type is characterized by Gambel oak (*Quercus gambelii*) and other shrubs such as snowberry (*Symphoricarpos albus*), mountain mahogany (*Cercocarpus montanus*), chokecherry (*Prunus virginiana*), serviceberry (*Amelanchier alnifolia*), Rocky Mountain maple (*Acer glabrum*), antelope bitterbrush (*Purshia tridentata*), and other species.

Gambel oak, also known as oakbrush or scrub oak, occurs in its own woodland stands and intermixed within stands of trees, particularly ponderosa pine. When the live fuel moisture is especially low, Gambel oak can burn very aggressively, especially when the fire is fanned by wind. When beneath the crowns of overtopping conifer trees, it will readily carry fire from the ground up into the tops of the trees. Other varieties of shrubs may not pose the same degree of fire hazard as does Gambel oak, but can still readily burn and act as ladder fuels.

Where Gambel oak was a significant component of areas severely burned during the Missionary Ridge Fire, it often has prolifically sprouted back from its root system and now dominates. Hence, some heavily burned areas that had been ponderosa pine or mixed conifer with an oak understory are now shrubland ecosystems and will continue to be until if and when conifers regenerate from seed, or seedlings are planted, and the area slowly transforms back into forest.

Expected Fire Behavior: High intensity – medium duration; flames 5-20 feet high, of brief duration; fire spread usually fast, at least 40 acres per hour; short range spotting common from blowing leaves. Dense to moderately dense flammable vegetation over 2 feet tall, including Gambel oak, conifer reproduction, abundant litter and/or herbaceous fuel; scattered conifer stand may be present (<35% conifer crown cover).

Mountain Grassland: The mountain grassland type is comprised of areas predominantly occupied by various species of native and introduced grasses and forbs. Species composition varies with elevation, aspect, soils, etc. It typically occupies the open areas occurring above the river bottoms and other sites with higher moisture. Shrubs may be present in considerable quantities, but do not occupy more than 20% of the vegetative cover, although groupings of shrubs occupying more than 20% may occur in patches of 5 acres or less. Fire typically quickly burns through grasslands, especially when it is cured or very dry. Although these fires can move quickly, they are generally the easiest to extinguish and least resistant to control, but high, shifting winds can complicate suppression efforts.



Expected Fire Behavior: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; spotting generally rare, short range.

Meadow: Meadows are open areas characterized by relatively low growing vegetation such as grasses, sedges, forbs, and small shrubs (i.e., cinquefoil [Potentilla], willow, etc.) that require more moisture than many of the species found in the mountain grass type. Meadows typically occur in stream and valley bottoms and other low spots where surface or subsurface moisture is common. Irrigated areas are also commonly classified as meadows for fire hazard rating purposes. Meadows are generally resistant to fire, and larger ones are often considered a potential barrier to fire; they can burn when vegetation is cured or especially dry, but typically offer limited resistance to control due to small fuel size.

Expected Fire Behavior: Low intensity – short duration; flames 5 feet high, higher flare-ups rare; duration of highest flames brief; fire spread slow to fast, 1-40 acres per hour; spotting generally rare, short range.

Missionary Ridge Fire Area: Much of the area surrounding Lemon Reservoir was impacted to some extent by the Missionary Ridge Fire of 2002. The current condition of woody vegetation within the fire perimeter varies depending upon the burning intensity experienced at specific locations. In some places, aspen are prolifically sprouting back where mixed conifer stands were severely burned by a crown fire. In other instances where a low-intensity surface fire backed down



the hillside at night, many to most of the conifers still remain. Where conifer stands were severely burned and fire-killed trees were not cut and salvaged, the dead trees will continue to fall upon the forest floor over time, steadily increasing the fuel available to support future surface fires. Although burned areas are usually considered to represent a lower wildfire hazard, within recent years wildfires occurring within the Missionary Ridge burn area have had higher than anticipated fire behavior and resistance to control due to this accumulation of down

woody vegetation. This situation can be expected to continue in the foreseeable future unless fuel treatments are implemented in these areas. Because some of the private property in the Greater Lemon area directly adjoins the Weminuche Wilderness Area where mechanical treatments are generally not allowed, prescribed fires, wildfires managed for resource benefits, and/or other wildfires are the only likely means of treating the abundance of surface fuels within the wilderness area.

According to the Colorado State Forest Service’s Wildfire Hazard Area Mapping protocol, expected fire behavior is as follows:

<p><35% Conifer Crown Coverage</p>	<p>Low intensity – short duration; flames 5 feet high, higher flare ups rare; duration of highest flames brief; fire spread slow to fast, 1-4 acres per hour; spotting generally rare, short range</p>
<p>35 to 55% Conifer Crown Coverage</p>	<p>Moderate intensity – longer duration; intermittent flare ups occurring to many feet above tree tops; short and medium-range spotting is common; behavior between flare ups similar to that in >35% cover class</p>
<p>>55% Conifer Crown Coverage</p>	<p>High intensity – long duration; flare ups higher than tree tops frequent to continuous; spread up to several hundred acres per hour; fire front impassable; spotting several hundred yards common, possible to a mile plus</p>

Small lightning-caused fires occur every year on forest service lands surrounding the Greater Lemon area, but are generally confined to 0.1 acre or less. Most fires go unreported; evidence exists to indicate numerous fire starts in the adjacent Weminuche Wilderness. Many of these fires are suspected to either burn themselves out or be extinguished by rain that accompanies the lightning.

During periods of extended drought and high winds, extreme fire behavior should be expected in areas with heavy fuels, especially those areas that did not burn during the Missionary Ridge Fire in 2002. Fire danger is especially high where surviving conifer stands are dense since these can support destructive crown fires that are difficult to suppress and control as was demonstrated by the Missionary Ridge Fire. Where conifer stands are more open, fires are more likely to remain on the surface where they typically do less damage and are more easily controlled, although torching of individual and small clumps of conifers can still occur. Opening of the stands to create greater distances between tree crowns and removal of ladder fuels from beneath and immediately surrounding residual trees can help lower the likelihood of a crown fire. Prescribed broadcast burning can also be used to lower wildfire risk by consuming some of the fuels that would otherwise be available to a wildfire. Shrublands, particularly Gambel oak, also represent a high fire hazard that can be mitigated by clumping, mastication, and the use of prescribed fire.

Slope increases fire hazard since fires on slopes preheat the fuels above them. Often, winds during the burning period are upslope/up valley, which further fans a fire uphill. Those hillsides that face into the predominant wind direction, which is generally from the southwest in southwest Colorado, are especially at risk since these hillsides tend to be drier and more prone to wildfire, and since the predominant winds will readily push a fire uphill. It should be noted that during a significant wildfire, the fire itself can create its own weather, resulting in winds that can come from varying directions (a significant factor in 2002 Missionary Ridge Fire). In addition, thunderstorms can cause shifting and erratic winds that can also push a fire in multiple directions. The Florida River Valley, with its varied topography, also influences wind direction and behavior and can have an impact on fire behavior.



MODELING

Other important factors regarding an area's wildfire hazard include projected flame lengths, rates of spread, and crowning potential. The following three (3) computer model images depict basic fire behavior outputs on the Greater Lemon landscape from a simulated weather event of high to extreme fire danger comparable to observed conditions during the 2012 southwest Colorado wildland fire outbreak (Weber Fire, Sand Bench Fire). These basic outputs were derived from the Wildland Fire Decision Support System (WFDSS) fire behavior analysis module, which utilizes the FlamMap model.

A 30-meter pixel resolution landscape file was derived using [LANDFIRE 2012](#) data. Dead fuel moisture values are representative of extreme burning conditions present on June 26, 2012. Live fuels moistures are also representative of extreme burning conditions where grasses are essentially cured and shrub fuels are nearly dormant. A wind scenario of 15 miles per hour at 20 feet above the surface from the west/southwest wind direction (243°) was applied.

(Note: As part of the GLRCWPP preparation, John Barborinas, fire behavior analyst, modeled potential fire behavior within the Greater Lemon area utilizing fire models within federally managed interagency Wildland Fire websites. April 8, 2017)

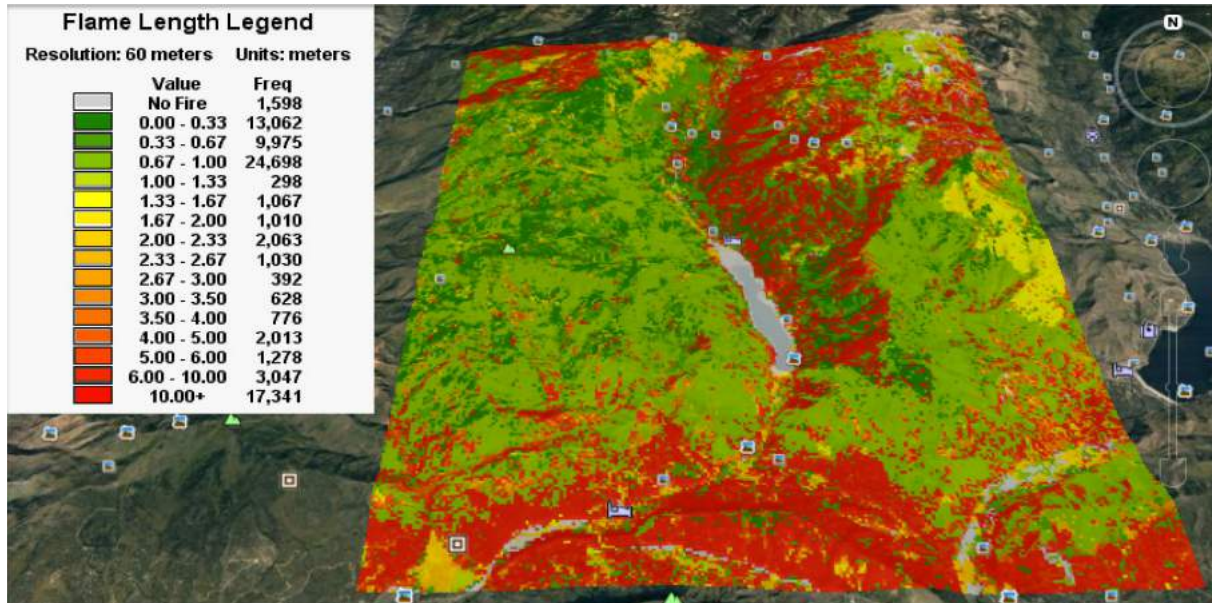


Figure 1 shows the results for flame length using the 15 mph, 20' wind scenario. The values are in meters. Generally, in most areas of concern, the calculated flame lengths are greater than 1 meter (yellow to red).

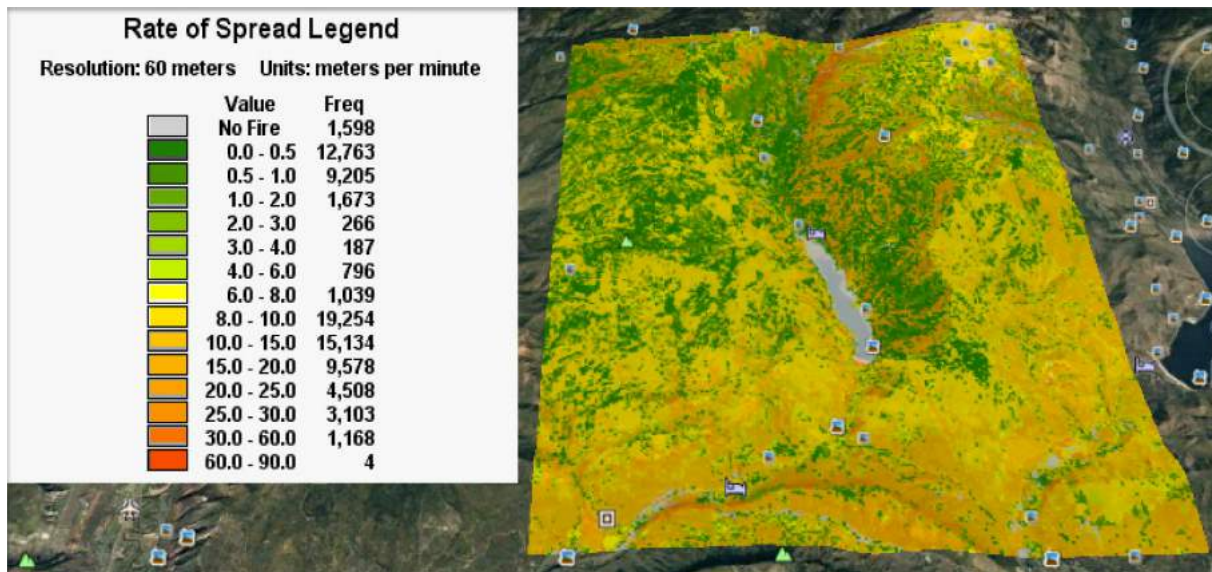


Figure 2 shows the results for rate of spread using the 15 mph, 20' wind scenario. The values are in meters per minute. The higher rates of spread are generally in exposed areas or areas of greater slope, but in most areas of concern, the rate of spread is greater than 1 meter per minute.

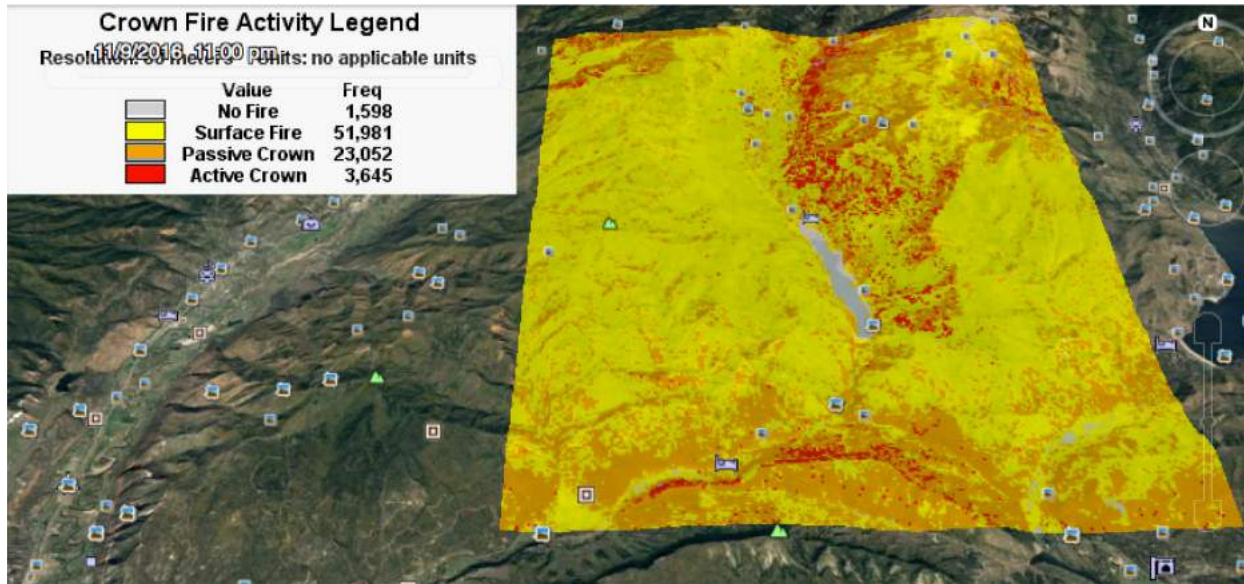


Figure 3 shows the results for crown fire activity using the 15 mph, 20' wind scenario. The values are surface fire (yellow), passive crown fire (orange) and active crown fire (red). Passive crown fire is the torching of trees, and active crown fire is when fire spreads through the canopy from tree to tree. The results show the potential for passive and active crown fire in many areas of concern particularly those outside of the 2002 Missionary Ridge Fire perimeter where dense crown fuels still exist.

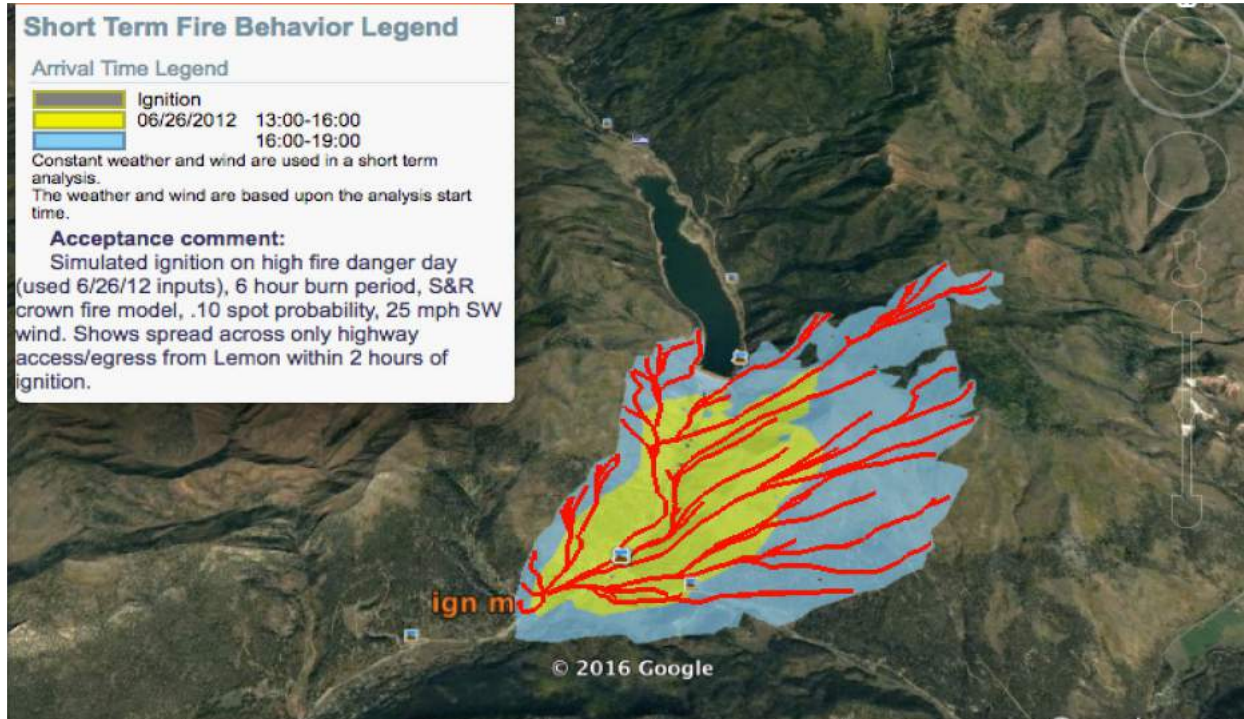


Figure 4 shows how a simulated fire start along County Road 240 on a high fire danger day with strong winds impacts the only access/egress route within 2 hours out of the Florida Canyon below Lemon Reservoir.

FlamMap Description - FlamMap is a fire behavior mapping and analysis program that computes potential fire behavior characteristics (spread rate, flame length, fireline intensity, etc.).

Purpose - FlamMap is part of a suite of fire behavior systems that includes BehavePlus, *FARSITE*, and FSPPro. These are complementary systems that are based on essentially the same fire models. BehavePlus is a point system with input supplied interactively by the user. FlamMap, *FARSITE*, and FSPPro are spatial systems that use the same base GIS data.



Overview and Applicability -The FlamMap fire mapping and analysis system calculates fire behavior for each pixel within the landscape file independently, so FlamMap does not calculate fire spread across a landscape. Potential fire behavior calculations include surface fire spread (Rothermel 1972), crown fire initiation (Van Wagner 1977), and crown fire spread (Rothermel 1991). Dead fuel moisture is calculated using the Nelson model (Nelson 2000) and FlamMap permits conditioning of dead fuels in each pixel based on slope, shading, elevation, aspect, and weather. FlamMap uses the same spatial and tabular data and incorporates the same fire behavior models as *FARSITE*.

The FlamMap software creates raster maps of potential fire behavior characteristics (for example, spread rate, flame length, crown fire activity) and environmental conditions (dead fuel moistures, mid-flame wind speeds, and solar irradiance) over an entire *FARSITE* landscape. These raster maps can be viewed in FlamMap or exported for use in a GIS, image, or word processor.

Restrictions and Limitations -FlamMap is widely used by the U.S. Forest Service, National Park Service, and other federal and state land management agencies in support of fire management activities. It is designed for use by users familiar with fuels, weather, topography, wildfire situations and the associated terminology. Because of its complexity, only users with the proper fire behavior training and experience should use FlamMap where the outputs are to be used for making fire and land management decisions.

Because environmental conditions remain constant, FlamMap will not simulate temporal variations in fire behavior caused by weather and diurnal fluctuations as *FARSITE* does, nor will it display spatial variations caused by backing or flanking fire behavior. These limitations need to be considered when viewing FlamMap output in an absolute rather than relative sense. However, outputs are well suited for landscape level comparisons of fuel treatment effectiveness because fuel is the only variable that changes. Outputs and comparisons can be used to identify combinations of hazardous fuel and topography, aiding in prioritizing fuel treatments.

FlamMap is not a replacement for *FARSITE* or a complete fire growth simulation model. There is no temporal component in FlamMap. It uses spatial information on topography and fuels to calculate fire behavior characteristics for a single set of environmental conditions.

Fuel Models

The major Fuel Models present across the Greater Lemon CWPP area by cover type are:

Cover Type	NFFL Model <i>(Anderson, 1982)</i>	Standard Fire Behavior Models <i>(Scott and Burgan, 2005)</i>
Aspen	5	TU1
Mixed Conifer	8,9	TL8, TU1
Ponderosa Pine	8, 9	TL8, TU1
Spruce-Fir	5, 10	TU1, TU5
Riparian	n/a	SH3
Mountain Shrub / Regenerating Aspen	5	SH2
Mountain Grassland / Meadow	1	GR2

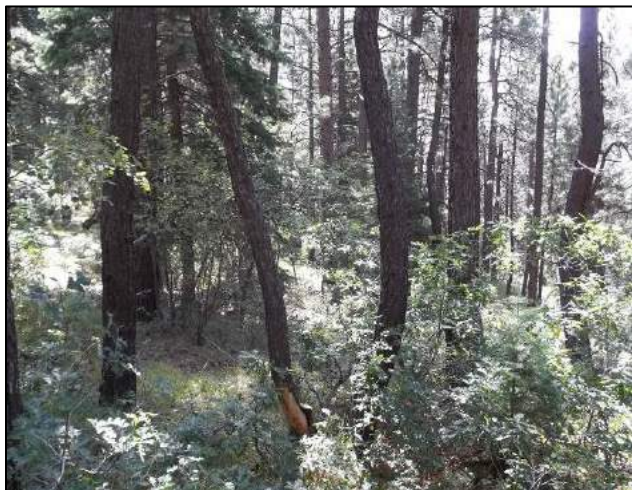
Fire behavior, including fire intensity, duration and common flame lengths are summarized below for the Fuel Models present in the Greater Lemon Reservoir CWPP area. The models are listed by cover type by NFFL model and the comparable Standard Fire Behavior model.



Aspen NFFL 5 / Standard Fire Behavior TU1: Fire is carried by the understory herbaceous layer or leaf litter. Dead logs on the ground will often be totally consumed. Spread rates and flame lengths are low, less than 100 feet/hour and one to two feet respectively at winds of 10 mph eye level.

Mixed Conifer with litter and short herbaceous understory; NFFL 8 / Standard Fire Behavior TL8: This model is for clumpy to closed mixed conifer overstory with moderate needle litter and light herbaceous understory. Spread rate is moderate (500 to 1200 feet/hour) and flame length two to three feet at 10 mph eye level wind speeds. Concentrations of fuels coupled with low fuel moisture, low humidity, high temperatures and moderate to high winds can increase spread rates and intensities and move fire into the tree crowns.





Mixed Conifer with shrub and small tree understory; NFFL 9 / Standard Fire Behavior

TU1: This model is for the closed canopy mixed conifer cover type with moderate downed woody fuels and shrub components. Flame lengths are two feet and spread rates are 300 to 600 feet/hour. Interlocking tree crowns and the presence of concentrations of fuels coupled with low fuel moisture, low humidity, high temperatures and moderate to high winds can increase spread rates and intensities and move fire into the tree crowns.

Ponderosa Pine with litter and grass understory; NFFL 8 / Standard Fire Behavior

TL8: This model is for clumpy to closed ponderosa pine overstory with moderate needle litter and light herbaceous understory. Spread rate is moderate (500 to 1200 feet/hour) and flame length two to four feet at 10 mph eye level wind speeds. It is similar to the Mixed Conifer fuel model but is not as susceptible to torching due to fewer ladder fuels.



Ponderosa Pine with shrub understory; NFFL 9 / Standard Fire Behavior

TU1: This model is for clumpy to closed ponderosa pine overstory with moderate needle litter and herbaceous understory. Spread rate is moderate (600 to 1200 feet/hour) and flame length 3 to 6 feet at 10 mph eye level wind speeds. It is similar to the Mixed Conifer NFFL 9/ Standard Fire Behavior TU1 fuel model but is not as susceptible to torching and crown fire due to fewer ladder fuels.

Spruce-Fir with grass and scattered shrub understory; NFFL Model 5 / Standard Fire Behavior TU1: Fires are carried by the grass, shrub and small tree understory. Rates of spread and flame lengths are normally low. Ladder fuels can present opportunities for individual tree and group torching but crown fires are only likely with low fuel moisture, low humidity, high temperatures and moderate to high winds.



Spruce-Fir with moderate herbaceous and down woody understory; NFFL Model 10 / Standard Fire Behavior TU5: The primary fire carrier is a moderate to heavy litter, shrub and small tree understory. Ladder fuels are commonplace so the presence of concentrations of fuels coupled with low fuel moisture, low humidity, high temperatures and moderate to high winds can increase spread rates and intensities and move fire into the tree crowns. Rate of spread ranges from 500 to 2000 feet/hour and flame heights from 3 to 7 feet. Fire movement is highly dependent on fuel moisture, wind and topography.

Riparian – Moderate Load Broadleaf Litter Standard Fire Behavior SH3: Fires are carried by the broadleaf litter and small branch components. Spread rate and flame length are both low. Intensity is low but duration can be moderate due to the low spread rate. Fuels are normally receptive only in late spring before green-up or in the autumn during leaf-fall.





**Mountain Shrub and Regenerating Aspen
NFFL 5 / Standard Fire Behavior SH2:**

This model is the Gambel oak cover type. Fires carry through the shrub layer as well as the cured litter and dead woody material on the ground surface with moderate (greater than 8 miles/hour eye-level) winds and live fuel moisture less than 110%. Lighter winds and openings in the canopy will drop the fire to the surface. Intensity and duration is low to moderate. A complicating factor for this fuel model is the level of standing and down dead wood. Down woody fuels exceed 25 tons per acre in some locations and loads in excess of 10

tons per acre are common. Normal live and dead fuel loads in Fuel Model 5 are three to five tons per acre. Spread rate is 200-300 feet/hour and flame lengths two to three feet with 10 mph eye-level winds.

**Meadow / Grassland NFFL 1 / Standard
Fire Behavior GR2:**

This model includes both native grass and agricultural pasture cover types under two feet in height. Fire spread is governed by the fine and continuous herbaceous material that is cured or nearly so.

Fire will not readily spread when relative humidity is over 25%. Fires are surface fires that move rapidly through the cured grass and associated litter. Fires can be intense if fuels are very dry but fire duration is usually short. Spread rate is high (up to 6500 feet/hour) and flame lengths can be four feet if very dry.



Literature Cited

Anderson, H.E. 1982. *Aids to Determining Fuel Models for Estimating Fire Behavior.* USDA Forest Service General Technical Report INT-GTR-122. Intermountain Forest and Range Experiment Station. Ogden, UT. 22 p.

Scott, Joe H., Burgan, Robert E. 2005. *Standard fire behavior fuel models: a comprehensive set for use with Rothermel's surface fire spread model.* Gen. Tech. Rep. RMRS-GTR-153. Fort Collins, CO; USDA Forest Service, Rocky Mountain Research Station. 72p.

(Note: This vegetation and fuel model/fire behavior section was assembled by John Barborinas, fire behavior analyst, utilizing pertinent information for the Greater Lemon Reservoir CWPP from information originally compiled by Cary Newman, a fire behavior analyst for the USFS, as part of the adjacent Vallecito CWPP preparation.)

Residential structure ignitability is generally moderate. Most homes in the area are constructed using traditional dimensional lumber; some are constructed with whole logs. One home in the area is earthen in construction (a cave). Siding material is wood siding, wood planking, hardy board, log siding, stucco, metal siding, and stone. Roofs on the structures in the area are made of asphalt shingles, wood shingles, and metal roofing materials. Fences, porches, and decks are generally of wood construction. The primary vulnerability issues are flammable vegetation like grass, brush, or trees. There is a range of depth for defensible space around the structures in the area. Some of the residences (specifically La Cherade Park, Aspen Trails, and non-subdivision properties) have performed Zone 1 fire mitigation which means the structure has a strong level of protection within 30 feet of all structures. 80% of the homes in the La Cherade Park subdivision have completed fire mitigation treatments. Firewood is used to heat many homes and is often stored on/under decks or porches, increasing a home's vulnerability to flying embers. Firewood should be stored at least 30 feet from the home on the uphill side or enclosed in a shed. Individual non-subdivision property owners in the area have hired professionals and have worked independently to remove ladder fuels and underbrush to increase open spaces, improve defensible spaces, and install fire-resistant treatments on structures.



Picture Courtesy of Rob Dawes, La Cherade

Recent research shows that most homes catch fire from flying embers, not from the flaming fire front. When building and/or remodeling, residents are encouraged to consider using fire-resistant material and follow fire conscious construction guidelines. Roof material such as metal, cement, or cement-fiber shingles and tile are not receptive to sparks, flame, and heat. Enclosing soffits with 1/8" metal screening also discourages ignition of roofs and eaves. The underside of wood decks and porches should be enclosed so that embers and flames cannot get underneath them. Decks that are impractical to enclose should not be used to store flammable material and should be kept clear of grass, pine needles, weeds, leaves, and twigs. A good recommendation is to annually remove leaves and pine needles from decks, porches, gutters, and roofs.

Thinning and pruning vegetation can reduce the radiant heat near structures, however convective heat from direct flame contact to ignitable portions of a structure is inevitable during an extreme fire behavior event. Brand blizzards out ahead of a running crown

fire can completely engulf an area around any structure resulting in numerous spot fires where ignitable fine fuels exist. Firebrands can also be pushed into any openings in a structure, such as vents and screens, igniting the structure from within. However, if a structure is built, maintained, and kept up to some level of minimal standards that does not enable it to ignite, it will not burn.

Extensive research continues on structure ignitability from wildfires. In most cases, attention to small details such as choice of building materials, and regular maintenance and upkeep can minimize

the ignitability of a structure, allowing it to survive a brand blizzard. Jack Cohen, Missoula Fire Sciences Laboratory, has several videos available on YouTube discussing this. Incorporating FireWise techniques, along with minimizing and/or eliminating the ignitability of structures in the wildland environment is an essential element towards the protection of our communities from the inevitable future forest fire.

PROTECTION CHALLENGES AND CAPABILITIES

7.3

The roads are generally narrow, steep, and icy in the winter. Switchbacks and dead ends are common. Roadways are a mixture of dirt, gravel road base, and asphalt. Most of the driveways in the area can only sustain one vehicle going in one direction. There are twelve (12) public and private bridges in the area. Three (3) of the bridges are public, and nine (9) of the bridges are managed by private residents.

Access to the community as a whole is limited, especially to areas at the north end of the GLRCWPP area. There is need for better address, street, and dead-end signage to assist emergency personnel. Many turnaround dead end roads lack the requisite 20-foot width for firefighting equipment. Such areas need to be widened or modified into a hammerhead. Some roads are very narrow and have overhanging brush and/or large trees close to the road. Such roads should be enhanced by targeted mitigation strategies.

County Roads (CR) 240 and 243 and Forest Service Roads (FSR) 596 and 597 are the main corridors for the Greater Lemon area. CR 240 follows the Florida River and provides east and west ingress and egress. County Road 243 (which becomes FSR 596 and 597) follows the Lemon Reservoir and Florida River corridors to the San Juan National Forest. There are no secondary access roads for this corridor. It should be noted there is no secondary route to evacuate residents on CR 243. The entire north end of the GLR area is simply a series of roads off of dead end roads, with most emptying into either CR 243 or FSR 596, the latter of which also empties into CR 243. The further a resident lives from an access route, the more difficult and dangerous the evacuation could be. (Developing an Evacuation Hazard Map has been identified on the list of proposed activities). Even if the evacuation routes were safe to travel, evacuation could be a serious problem during an emergency. CR 243 was closed for a time during the Missionary Ridge Fire evacuation. If a wildfire, dense smoke, or incoming emergency equipment cut off a section of the evacuation route, there would be no way to evacuate some parts of the GLR area. This limited emergency access and egress poses a serious risk to residents' and visitors' safety and the ability of emergency management to respond to a wildfire.

Some homes have concrete underground water storage tanks (cisterns) between 600-1800 gallons. La Cherade Park subdivision has a community water system with a central well. The facility has a custom pressure feed fire hydrant and hydrant connection with two



above ground water tanks. One tank has a capacity of 5,000 gallons, and the other tank has a capacity of 2,000 gallons with a 1,800 gallon back-up cistern.

The Three Trails Ranch in the Sierra Verde subdivision has a fire hydrant water system and a large pond that serves as a year-round water source.

Aspen Trails and Trew Creek Estates subdivisions have five (5) miles of road that are maintained by Aspen Trails Metropolitan District (ATMD). The road right-of-way is 30' overall. A portion of Sierra Drive is 40' where it borders Los Ranchitos subdivision. Actual maximum road width on most road sections is less than 17'. The roads are narrow and steep, with inadequate drainage. Some roads consist of switchbacks. It is not feasible to widen the roads to County standards without causing major erosion issues and possibly destabilizing home foundations. The main road



into Aspen Trails is Trew Creek Road. There is a gated and locked secondary egress for emergency purposes from Sierra Drive on the west side of the subdivision in to Los Ranchitos via Lobo Drive. No secondary egress exists for the east side of the subdivision. Most roads are not wide enough for two vehicles to pass. There are some turnouts, but the need for more turnouts, widening of roads where possible, and larger hammerheads for turnarounds are on the list for desired improvements when funding is available. Sections of road have deteriorated due to poor drainage so that they are

currently impassable by vehicle (Sierra Circle, Aspen Drive-loop section). Some right-of-way fuel reduction mitigation has been done along Trew Creek Road, Sierra Drive and Bear Run over the past three (3) years. There is still more work to be done on these roads. Additionally, Aspen Drive, Ridgecrest Drive, Hideaway Drive, Chipmunk Circle, Sierra Circle, Elk Lane, Turkey Trail, and Bear Crossing are all in need of right-of-way work to reduce ladder fuels, thin and remove unhealthy trees, improve drainage, and widen where possible. There are no fire hydrants or water storage systems for fire suppression established for ATMD.

The Upper Pine River Fire Protection District Station #3 is located on CR 240. The community property owners do not currently have internal community fire protection capabilities other than the equipment and trained volunteer firefighters who serve the Fire Protection District.

FIRE RISK

7.4

The fire risk from human-caused fires is high, especially in the summer when there is a substantial increase in tourist and summer resident populations. Many of the area visitors come for outdoor recreational purposes which often includes a campfire, barbeques, gas-operated generators, battery operated equipment, motor homes, campers, trucks, trailers, and outdoor recreational vehicles.

The fire risk from lightning strikes and storms is high, especially given the mountain ridges that surround the area. The steep terrain can necessitate the need for specialty crews like smokejumpers to access the area. In these locations and in these instances, tanker airplanes and helicopters are often used to drop fire retardant to cool the fire. Additional risks and expenses are incurred when aircraft is used.

VALUES AT RISK

7.5

People

Lives are the most important value at risk in the GLRCWPP and the GLRCWPP WUI areas. Population density varies from season to season. Information gathered from the La Plata County Geographic Information Systems (GIS) indicates the population of the GLRCWPP WUI area was 782 as determined in the 2010 Census. The estimated population of the GLRCWPP area is 657 or approximately 1% of La Plata County's population. But, during the summer months, lives at risk can increase 150% or more as seasonal residents, vacationers, and tourists gravitate to the GLR area.

The U.S. Forest Service operates three (3) campgrounds: Miller – 12 camp sites, Florida – 21 camp sites, and Transfer Park – 25 camp sites, and one (1) day-use only area (Upper Lemon). These campgrounds operate from May to September and welcome many visitors to the GLR area and serve as a launching point to U.S. Forest Service trails in the Weminuche Wilderness. These activities contribute to significant increases in population to the area.

Property

Residences and structures are values at risk. Information gathered from the La Plata County Assessor's Office indicates there are approximately 650 parcels of private property in the defined boundaries of the GLRCWPP. Approximately 260 parcels of private property have homes or significant structures. These land improvements range in value from \$2,000-\$1,650,000. House pets, outside pets (sheep, goats, chickens, turkeys, rabbits, and horses), and various livestock are common.



Descriptions of the residential property values at risk are as follows:

Aspen Trails

consists of 158 individual parcels
ranging in size from .25-54 acres
104 of these parcels have structures (66%)

Trew Creek

consists of 5 individual parcels
ranging in size from 3-6 acres
4 of these parcels have structures (80%)

Haciendas de la Florida

consists of 12 individual parcels
ranging in size from .5-1 acre
7 of these parcels have structures (58%)

Hunter's Ridge

consists of 2 individual parcels
ranging in size from 12-22 acres
1 of these parcels has structures (50%)

La Cherade Park (I and II)

consists of 43 individual parcels
ranging in size from .5-1 acre
11 of these parcels have structures (26%)

Sierra Verde

consists of 210 individual parcels
ranging in size from .5-3 acres
34 of these parcels have structures (16%)

Florida Park

consists of 16 individual parcels
ranging in size from 1-5 acres
12 of these parcels have structures (75%)

Wilderness Lake Mountain Estates

consists of 35 individual parcels
ranging in size from 3-10 acres
23 of these parcels have structures (66%)

Non-Subdivision Parcels

126 non-subdivision parcels
ranging in size from 1-510 acres
49 of these parcels have structures (39%)

Infrastructure

Infrastructure stakeholders own and/or manage assets that are at risk during a wildfire. Stakeholders include Upper Pine River Fire Protection District, U.S. Bureau of Reclamation, Colorado Division of Water Resources, U.S. Geological Survey, Florida Water Conservancy District, City of Durango, U.S. Forest Service, La Plata Electric Association, CenturyLink, La Plata County Road and Bridges Department, communities with water storage structures, and individuals whose property access requires private bridges.

- Upper Pine River Fire Protection District operates Station #3 (unmanned) located at 13407 CR 240 at the entrance to Aspen Trails. This is the primary response station for the GLRCWPP and the GLRCWPP WUI areas and houses firefighting equipment and other assets.
- U.S. Bureau of Reclamation built Lemon Dam which created Lemon Reservoir and is in contract with the Florida Water Conservancy District to provide watershed run-off storage and regulation for the supply of drinking water to the City of Durango, for the supply of irrigation water to more than 19,000 acres of farmland in La Plata County, and for flood control of the area downstream. Assets for the Dam include:
 - spillway on the west abutment of the Dam designed with a capacity of 9,600 cubic feet per second
 - approach channel
 - concrete inlet structure
 - concrete ogee crest section
 - open concrete chute
 - concrete stilling basin
 - outlet channel for discharge
 - “outlet works” consisting of a 9-foot horseshoe-shaped concrete-lined tunnel with a gate chamber for two 2.5-foot-square high pressure gates designed with a capacity of 910 cubic feet per second



- Colorado Division of Water Resources manages and operates water sensors in two (2) Florida River Water Flow Monitoring Stations. One station is located above the Lake, and one is located below the Dam. These stations monitor the flow of water for drinking water supplied to the City of Durango and the flow of water for irrigation water supplied to the Florida Mesa.
- U.S. Geological Survey utilizes equipment to monitor the water storage in Lemon Reservoir.
- Florida Water Conservancy District
 - Florida Farmers Ditch and Florida Canal distribution systems that serve lands on Florida Mesa
 - earth-fill section for the diversion dam approximately 500 feet long at the crest
 - overflow weir
 - headworks
 - sluiceway
 - wingwall
 - fish screens
- City of Durango (and outlying communities like Edgemont)
 - water inlet facility (located within the GLRCWPP WUI area on CR 240)

- U.S. Forest Service assets include:
 - Dam Keeper's house, other facilities, and equipment
 - a myriad of forest service roads
 - three campground sites with amenities (Miller, Florida, Transfer Park)
 - camp host facilities
 - boat ramp (Miller)
 - tables
 - grills
 - bathrooms
 - signs
 - trails and grounds facilities
 - one day-use site with amenities
 - bathrooms
 - signs
 - bridge across the Florida River at the Florida Campground on FSR 596
 - various drainage areas utilized to protect water quality downstream



- La Plata Electric Association's assets include:
 - above-ground electric lines
 - electric poles
 - transformers
 - below-ground electric lines

- CenturyLink assets include:
 - service connection boxes
 - trunk routes
 - above-ground telephone lines
 - below-ground telephone lines



- La Plata County Road and Bridges Department assets include:
 - county roads
 - County Road 240
 - County Road 243
 - County Road 245
 - bridges
 - bridge on CR 245
 - bridge on CR 240
 - bridge on CR 243

- culverts to divert flood waters and seasonal run-off
- cattle guard on CR 243
- Communities with water storage assets include:
 - hydrant system for La Cherade Park (I and II) subdivisions
 - well-house and water storage tanks at La Cherade Park (I and II) subdivisions
 - hydrant system at the Three Trails Ranch, Sierra Verde subdivision



- Private bridges maintained by property owners include:
 - five (5) bridges between CR 245 and the turn off for CR 243
 - two (2) bridges immediately below Lemon Dam
 - one (1) bridge just north of the cattle guard
 - one (1) bridge on FSR 596 before the entrance to the National Forest

Commercial Activities

Commercial businesses are critical to the livelihood of the area and as such are imperative values at risk. In addition to the commercial businesses, many home owners operate businesses out of their residences. Commercial activities include:

- La Plata County ranchers utilize grazing lands within the GLRCWPP WUI. Seasonal grazing provides fuels reduction and mitigation to public lands. Loss of vegetation on which to graze would cause a significant hardship as livestock (cattle and sheep) provide a livelihood for these ranchers and their families as well as gainful employment for area cowboys. This activity also serves as a sustainable historical interest. Fall round-up and sheep drives usher in Heritage Days and Sheep Trailing for southwest Colorado residents and visitors.
- Lemon Lake Lodge offers lodging and dining options at Lemon Lake. The Lodge offers horse and trail rides, hunting, hiking and activities at the Lake.
- Three Trails Ranch was established in 1997 as a non-profit camp that can accommodate lodging for 130 kids and adults, providing kitchen facilities and a dining hall, indoor and outdoor activities in the mountains and at the Lake. The 17 acres and five buildings were originally developed in the late 1960s as a dude ranch.
- Colorado Trails Ranch is an all-inclusive “guest dude ranch” vacation getaway. The Ranch experience provides lodging and dining options with horseback riding, fly fishing, square dancing and a petting zoo.

- O Bar O Cabins are situated on the Florida River. O Bar O consists of individual mountain cabin lodging, dining, fishing, horse trail rides, outdoor grilling, and hiking.
- Helen’s Country Store (scheduled to re-open in 2017).
- Commercial outfitter guides utilize area lands to offer camping and photography excursions, hunting and fishing, pack trips, and horseback trail rides to local residents and vacationers from across the U.S. and beyond. Pack trips are offered on both horses and llamas. These seasonal activities are a way of life and serve as the outfitters’ livelihood.
- Commercial agricultural activities in the area include hay production, tree farms and bee-keeping.



Ecosystem and Wildlife

Biological diversity is critical to and vastly evident in the area. Snowfall, monsoon rains, heavy vegetation and forest, and high desert attributes contribute to a variety of micro-climates. The watershed for the GLRCWPP WUI includes numerous lakes, rivers, creeks, streams, and springs. City Reservoir, Lost Lake, Stump Lake, Lillie Lake, and Oliver Lakes are outside of the GLRCWPP WUI boundary, but the water from these naturally occurring sources flows into the Florida River and then into Lemon Reservoir which has a high impact on the water supply downstream as drinking water to Durango residents and agricultural use on the Florida Mesa. Shearer Creek, Trew Creek, Pound Creek, Miller Creek, Willow Creek, Waldner Creek, Lone Tree Creek, McCoy Creek, Blodget Creek and others all serve as the watershed for this area.

A healthy and clean watershed from these sources, devoid of mud and debris, is crucial as it flows from the GLRCWPP and GLRCWPP WUI areas of the San Juan Mountains into Lemon Reservoir, through Lemon Dam, down the Florida River, collecting from the river’s tributaries below the Dam, and into the water inlet facility for the City of Durango and the irrigation ditches for the Florida Mesa. After the Missionary Ridge Fire in 2002 and because of the wash out and ash content in the watershed, stakeholders entertained installing a centrifuge to separate and clean the water before distribution to residents of the City of Durango. Greater attention to fire prevention and fuels mitigation in the GLRCWPP and GLRCWPP WUI areas would avoid expending critical resources on potable water for Durango and surrounding communities.

Abundant varieties of plants and animals are highly valued by residents and visitors to the area. The area offers heavily forested conifer stands of ponderosa pine, Douglas fir, Engelmann spruce, White fir, subalpine fir, aspen, cottonwood, and Gambel oak. Wildflowers, native grasses, wild holly, mushrooms, cat-tails, thistle, mullein, hounds tongue, and various lichens provide thick vegetation that sustains the micro-climates. The ecosystem of the area supports elk, deer, moose, bears,



Picture Courtesy of Judy Bolton

mountain lions, bobcats, lynx, wild turkeys, nesting osprey, eagles, several species of hawks, Peregrine falcons, heron, grouse, quail, bees, marmots, rabbits, owls, turkey vultures, coyotes, squirrels, chipmunks, ermine, raccoons, skunks, porcupines, Kokanee salmon, trout (Brown, Brook, Rainbow), ducks, and Canadian geese. Two particular points of interest for residents, visitors, students, and animal conservationists are the active osprey and eagle nesting sites and the migrating water fowl around the Lake. Property owners engage in the cultivation of trees in area tree farms and nurturing bee hives for healthy flora and fauna.

Social Values (cultural, recreational)

Residents and visitors value a variety of activities available within the area, including fishing (both summer and winter ice), boating, kayaking, paddle boarding, swimming, hunting, backpacking, hiking, rock climbing, biking (both motor and peddle), snow-kite skiing, cross-country skiing, snow-shoeing, snowmobiling, sledding, bird watching, photography, and star-gazing. Roads in the GLRCWPP and GLRCWPP WUI areas serve as a gateway to the National Forest and the Weminuche Wilderness through trail accesses such as Burnt Timber, Endlich Mesa, Shearer Creek, and Young's Canyon. Many area property owners board horses, as well as enjoy and offer horse rides on area roads and mountain trails. These activities provide ways for the GLR community to connect and flourish.

The area runs the gamut in terms of high-end homes, ranches, and farms, to very modest yurts and trailers for housing. It is a popular location for second, seasonal, and vacation homes for non-residents, with a fair number of rental homes which attract young families who are priced out of the market in the City of Durango. In addition to the multitude of beautiful homes and personal property, the area offers unmatched aesthetic value and landscapes.

Historic Significance

Historic Cabins

Before the construction of Lemon Dam in 1963, two log cabins were situated in the valley that now contains Lemon Reservoir. To preserve these historic cabins, they were moved from the valley to their current location in the La Cherade Park subdivision on either side of Sawmill Road.

Other historic cabins in the area have been updated and serve as summer and fulltime residence. The Buffalo Chip Cabin is a wonderful representation of the care given to historic structures to preserve their beauty and the history of the area.

The Kelley Ranch

The Kelley Ranch was the original pioneer home of the Charles Waldner family, an early German immigrant family and one of the first settlers in the Upper Florida River Valley. The family settled in the area by 1909 and constructed historic ranch buildings including this log, board and batten cabin, which served as a barn and milk shed. The ranch remained in the Waldner family until it was sold to the Kelley family in 1930. The property has been a working ranch for over 100 years and is a good example of pioneer settlement and agriculture in the high mountain environment of La Plata County. The period of significance extends from the cabin's construction to 1959 to meet the National Register Guidelines. (*A Historic Resource Survey of 100 Sites in La Plata County*, Jill Seyfarth and Ruth Lambert, January 2010.)



The Lissner School House

The first known schools in the Upper Florida Valley, of what this document identifies as the GLR area, were in La Plata County School District #14, also known as the Sortais District. The Sortais District consisted of three (3) distinct schools, each independent, but all administered by the Sortais School Board. The three schools were the Sortais Main School, the Red Creek School (or Middle Sortais School), and the Lissner School (or the Upper Sortais School). The Sortais Main School was



established in 1896 by Frank and Jennie Sortais. Louis (Frank) Sortais came to America from France when he was 21 years old on a ship where he was in charge of a ship load of horses. Sortais was a freighter to the Cherry Creek and Yellow Jacket areas. He boarded at a place on lower Third Avenue in Durango where he met Jennie Stevenson, a niece of the proprietor, who with her mother was visiting from Texas. After their marriage in 1895, the couple bought a 160 acre ranch in the Upper Florida Valley and built a school house for the Lissner School. In addition to area children like the Lissners, the Allans, the Schrecks, and

the Waldners, whose family homesteaded a large portion of the area, ranchers who grazed cattle in the Upper Florida Valley sent their children to the Lissner School between April and October.

Keeping a “practical” focus to their curriculum, the rural school teacher frequently devised class projects which combined work skills with book study. As seen in this photo, the Sortais students of 1928 constructed a bridge across the Florida River as a class project. The teacher, Mr. Gunkel, supervised the building of the bridge, and the surrounding community provided the materials. (The bridge actually did not lead anywhere and was not intended to serve any definite purpose other than educational, but the students were proud of their accomplishment and recalled this experience as one of the most rewarding of their school years.)



Sortais School "Bridge Project" c. 1928

The Sortais School District consisted of “smallish” schools as they did not have as large a tax base as some of the lower mesa districts. They did, however, serve some of the earliest pioneer families along the Upper Florida. The schools remained in service until the late 1950s after a rural school bus was purchased and made it possible to take children into Durango for schooling.

The Lissner School House is listed on the National Register as a structure “associated with events that have made a significant contribution to the broad pattern of our history.” It has been restored by private interests and is located in its original location in the valley just below Lemon Dam. The current owners say the historic outhouse of the school burned during the Missionary Ridge Fire. The building is one story, 28 feet long by 20 feet wide. Electricity was installed in the 1970s. It has a front gable, a metal roof, a chimney and a porch, and is sided with horizontal lapped wood siding and corner boards as was originally prescribed. (*Clapboards, School Boards, and Black Boards: A History of the Florida Area Rural Country Schools 1875-1959*, by Bruce Spining with the assistance of Robert Tyner and from “*Pioneers of the San Juan County, Volume IV*”)

Transfer Park

The history of Transfer Park can be traced back to the mining era. The Park was used for transferring ore and supplies from wagons, which originated in the valley, to pack mules in order to continue the journey north on roads and trails that would not accommodate a wagon. The location is now Transfer Park Campground, offering 11 acres of cool mountain settings under mixed conifers and aspens at 8,600’ in elevation. Two loops have 25 campground sites with a mixture of shade and sun, and there are large open play areas. The upper loop is mostly level with several long campsites. The lower loop, near the Florida River has two large campsites, a few short pull-thrus, and several excellent tent spots.

Gone, But Not Forgotten

Lemon Reservoir (Lake) derived its name from Charles and Laura Mae (Lollie) Lemon who owned the ranching property upon which the Reservoir now rests.

Sawmill Road in La Cherade Park subdivision got its name from a local sawmill that once operated in the area.

In Crystal Basin, near the head of the Florida River, was the logging and mining town of Hewit, with four or five log cabins established between 1882 and 1885. The abandoned remains prompted a new name, Logtown, which is still used today even though the tiny community never used that name while people lived there.





EMERGENCY MANAGEMENT

SECTION 8

Structural and wildland fire protection is provided by the Upper Pine River Fire Protection District. The Upper Pine River Fire Protection District’s main fire station is located on the west side of the town of Bayfield on County Road 501. Both structural and wildland fire engines are resources available through the Fire Protection District. Other wildland fire resources are available through the Durango Interagency Dispatch Center. Wildland fire resources include engines and crews from the U.S. Forest Service, Bureau of Land Management, Mesa Verde National Park, Colorado State Forest Service, Bureau of Indian Affairs and the Southern Ute and Ute Mountain Ute Tribes. An air tanker base is located at the Durango-La Plata Regional Airport. Additional aerial wildfire support can be provided by the Mesa Verde National Park initial attack helicopter at Hesperus, the Ute Mountain Ute initial attack helicopter at Towaoc and the Colorado State Forest Service Single Engine Air Tanker at Cortez. The counties, federal land management agencies, Colorado State Forest Service and Fire Protection Districts in southwest Colorado operate under a Consolidated Mutual Aid Agreement.



Picture Courtesy of Rob Dawes, La Cheroke

The nearest manned fire station to the GLRCWPP area is Station #5 at Forest Lakes Estates. Distances and estimated response times between Station #5 (manned), Station #3 (unmanned), Station #9 (proposed), and the northern-most end of the GLRCWPP area (Transfer Park) are:

From	To	Mileage	Response Times <i>(estimated)</i>
Station 5 (<i>manned</i>)	Station 3 (<i>unmanned</i>)	5.2 miles	8 minutes
Station 5 (<i>manned</i>)	Station 9 (<i>proposed manned</i>)	9.7 miles	25 minutes
Station 5 (<i>manned</i>)	north end of CWPP (<i>Transfer Park</i>) *	13.2 miles	45 minutes
Station 3 (<i>unmanned</i>)	north end of CWPP (<i>Transfer Park</i>) *	8.3 miles	35 minutes
Station 3 (<i>unmanned</i>)	Station 9 (<i>proposed manned</i>)	5.7 miles	10 minutes

The Upper Pine River Fire Protection District currently staffs three (3) full-time manned stations. The District is equipped with resources to manage Type 5 fires and most Type 4 fires. Each station is equipped with a brush engine as well as a Type 1 structure engine and 2000-gallon water tenders. During the summer months, a seasonal brush engine crew is also in District for wildland fire suppression.

All of the Upper Pine River Fire Protection District personnel are required to be, at a minimum, NWCG Red Card qualified. Currently, District personnel have qualifications that range from basic Wildland Firefighter II to TLF (task force leader). In early spring, the District conducts annual Wildland Fire Refresher Training (RT130) for all firefighters. Regional Zone training is also offered every spring through the Durango Interagency Dispatch Center.

The Upper Pine River Fire Protection District has mutual aid agreements with all neighboring jurisdictions to include Los Pinos Fire, Durango Fire Rescue, Pagosa Fire, and the Columbine Ranger District of the U.S. Forest Service.

The Upper Pine River Fire Protection District utilizes multi-media, to include Facebook, as well as “Code Red” (formerly Reverse 911), to communicate threats in and to the community. The District has a database of property owners’ contact information, residential structural information, topography and number of occupants of all residents served in the District.



EDUCATION AND COMMUNITY OUTREACH

9.1

Creating greater fire safety awareness and establishing a heightened wildfire prevention attitude among GLR community property owners is a very important goal of the GLRCWPP Team. The key components for successful implementation of the GLRCWPP are effectively communicating and reaching out to educate the community about wildfire mitigation and fire behavior issues, encouraging mitigation on properties, and following up to see how we can do better.

Communications

Stakeholders of the GLRCWPP and GLRCWPP WUI areas are the primary audience for mitigation and implementation of the recommendations in this CWPP. Visitors to the area will be part of the education and community outreach. Collaborative mitigation efforts will be presented to GLR community stakeholders and to contiguous community stakeholders who would benefit from mitigation activities on their properties in adjoining subdivisions or CWPP communities, government agencies planning complementary mitigation treatments and/or supplying grants and matching funds to perform mitigation, and emergency responders.



Picture Courtesy of Judy Bolton

Outreach

Community outreach to the GLR area full-time and seasonal property owners and area stakeholders were developed and conducted to provide a platform of interaction, education, updates and progress of the CWPP. These methods included the development and management of a website, creation and management of a Facebook page, a community email account, informational emails to property owners, and a mass mailing to all property owners of the area providing information on the CWPP. In all interactions, stakeholders were encouraged to work together on fire concerns.

Greater Lemon Reservoir FaceBook page:
<https://www.facebook.com/GreaterLemonCWPP>

Greater Lemon Reservoir CWPP website:
<https://sites.google.com/site/greaterlemonreservoircwpp>

Greater Lemon Reservoir email account for community input:
GreaterLemonCWPP@gmail.com

Field Trips, Events, and Actions

Field trips to various areas of the community and community wildfire prevention events were conducted to bring people together for education on the shared concern of wildfire risk and to encourage collaboration amongst area property owners and stakeholders. Other community events will be scheduled.

Education

Future education efforts will include:

- Presenting wildfire mitigation information at community meetings.
- Hosting educational community workshops on desired topics based on input from residents.
- Sharing information with property owners about fire prevention related rebate programs, wildfire hazard mitigation tax credits, and grant opportunities.



- Encouraging subdivisions and individual property owners to develop specific projects they would like to complete so they are prepared when a grant opportunity arises.
 - Inviting neighbors to visit the Facebook page and GLRCWPP website for links to fire mitigation information.
 - Encouraging residents to register with the “Code Red” emergency notification system (formerly Reverse 911).
- Encouraging property owners to obtain the 2” blue reflective house numbers so the Fire District can better identify their residence.
 - Encouraging property owners to follow Colorado State Forest Service Firewise Construction recommendations.
 - Sharing information about the importance of water and water quality in Lemon Reservoir and downstream to Edgemont, Durango, and the Florida Mesa.

FUELS REDUCTION RECOMMENDATIONS

9.2

Vegetation and Fuels Management

The tree cover across much of the area is ponderosa pine and mixed conifer with shrubs and small tree understory. Generally, tree growth is very dense so recommended treatments are aimed at

reducing density by opening up the tree canopy, increasing the vertical and horizontal arrangement of trees, and removing ladder fuels thereby decreasing the opportunity for crown fires. Major vegetation management issues are fuels like trees, shrubs, grass, and leaf and needle litter in close proximity to structures (within Zone 1). Lack of management like thinning, pruning and removal of downed woody fuel have made the risk of crown fire in Zones 2 and 3 high across much of the GLR community.

Areas that burned in the Missionary Ridge Fire experienced running crown fire and group torching. Forest management has been minimal since the fire.

Many residents are already involved in mitigation efforts. The GLRCWPP Team will encourage fuels reduction projects in specific neighborhoods and help recruit additional volunteers and resources for these projects.

The following recommendations apply to all GLR properties and are based on guidelines from the Colorado State Forest Service publication Quick Guide Series 2012-1 *Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones*.

Defensible Space

Creating defensible space can significantly improve the chances of a home (and possibly its occupants) surviving a wildfire, but even the best examples of defensible space are going to be strongly tested during a “perfect storm” event. Defensible space can allow firefighters to effectively and safely make a stand to protect structures. It is not reasonable for property owners to expect heroic measures by firefighters to save their property if the owner has invested no effort in reducing their fire risk. Property owners are encouraged to commit to maintaining their defensible space once it is created.



Zone 1 extends 15-30 feet from all structures and is a critical area for fire and fuels reduction. Ideally, removing all trees within the first 15 feet, using nonflammable ground cover, and planting no vegetation within 5 feet of structures will provide the best chance for the building to survive a fire. Property owners are encouraged to avoid planting close to windows and foundation air vents, and to avoid planting grasses close to any other plants that could spread fire. Additional recommendations include:

- Placing inorganic material like rock or brick 3-5 feet all the way around the home,
- Mowing grasses to a height of 6" or less,
- Irrigating lawn and plants during the dryer months,
- Placing firewood at least 30 feet away from structures (and preferably more uphill),
- Enclosing or screening decks with 1/8 inch or smaller metal mesh screen to prevent embers from penetrating vulnerable areas of the structure,
- Removing pine needles, slash and other debris from the roof, chimney area, deck and gutters, and on the ground for at least 10 feet from the structures.

If the property owner chooses to keep some trees within this zone, lower branches (of ponderosa pine) should be pruned at least 10 feet off of the ground and 15-30' away from structures (essentially increasing Zone 1). Branches overhanging the road should be cut back. The duff layer beneath trees should be raked and removed to expose mineral soil around the perimeter of any remaining trees. If Zone 1 structures are on a steeper slope, consideration should be given to extending this zone (from the edge of the home's eaves outward) downhill at least 5 feet to create more defensible space.

Zone 2 generally extends 100 feet outward from structures (more if the slope is steep). Zone 2 mitigation recommendations focus on diminishing the intensity of fire by reducing fuels approaching the home. Reducing the amount of burnable vegetation is a key strategy in Zone 2 fuels management. With that in mind, removing stressed, diseased or dying trees



Picture Courtesy of Judy Bolton

and shrubs, thinning trees to a spacing of 10 feet between the crowns (outermost branches of trees), and pruning tree branches 10 feet from the ground (or 1/3 the tree height for smaller trees) to reduce the ladder fuels that allow fire to climb into a tree crown, are specific recommendations. Fewer trees and shrubs in this Zone will create a more defensible space. Shrubs should be trimmed so that they are at least 10 feet from tree branches.

Clustering small groups of trees and shrubs with a 30-foot buffer between crowns of the grouping and any surrounding trees can create an appealing transition between Zones 1, 2 and 3. Shrub clumps should have a minimum spacing of 2.5 times the mature height of the vegetation within the clump. Annual

pruning of shrubs to maintain this spacing is important. Grasses should be kept at a maximum height of 6 inches (very important during dry fall conditions). The property owner is encouraged to monitor and remove surface fuels like branches, downed trees, slash and wood chips (greater than 4 inches deep). Pine needle duff around the base of trees should be raked back and eliminated. Dead trees (snags) can make great wildlife habitat, but they should be limited to one or two per acre. Establishing a 30-foot Zone 2 buffer along the driveway will allow for safer egress in a fire situation. If the property has a steep slope, extending these distances may be helpful. Propane tanks and woodpiles should be located at least 30 feet from structures. Propane tanks should be placed on the same elevation as the house and should not be screened by shrubs or flammable fencing, although a non-flammable ground cover around the tank is acceptable. All flammable vegetation should be removed from within 10 feet of woodpiles. Many property owners will find that Zone 2 extends beyond their property line, necessitating working cooperatively with a neighbor to create a mutually beneficial Zone 2 treatment area.

Zone 3 extends beyond 100 feet from structures outward to the property boundary. This is a management zone to create a healthier forest, consider ways to reduce wildfire intensity, protect water quality, and improve wildlife habitat. Healthy forests have trees of multiple age/size/species with space for growth and should be monitored and managed for damage, disease and insect infestation. Two or three dead snags per acre (at least 8 inches in diameter) can provide beneficial wildlife habitat. The location of snags should pose no threat (when they eventually fall) to power lines, roads, or footpaths on the property. The threat of crown fires is lessened in Zone 3 when ladder fuels close to the base of trees are reduced and healthy tree spacing is maintained.

Slash Treatment

Slash reduction is a key aspect of a fuels mitigation program. Piling and burning of slash is an effective treatment but usually requires snow cover or very moist conditions, close attention to weather conditions, and depending on the intensity of the fire, may sterilize the ground beneath the burn for a few years. Broadcast/prescribed burning (a low intensity surface burn) is also effective and more ecologically desirable since it can reduce woody debris on the ground surface and return nutrients to the soil. Broadcast burning requires a high level of technical expertise to accomplish safely. Curtain (or biomass) burning at a central location may be a favorable long-term option, however, it requires hauling slash to that location.



Chipping slash is an alternative to piling and burning, but it can generate large chip piles or chip depths across the landscape which remain for years and are a fire hazard, especially during dry years. (Given the large geographic area and the volume of slash to be addressed, one of the recommendations of the GLRCWPP is to acquire a biomass burner.)

Recommendations for slash treatment include:

- Reducing slash on properties by working cooperatively with stakeholders to provide options for slash removal: chipping, burning in slash piles, burning in an air curtain burner, or using a biomass burner. *(Resource assistance and collaboration will be required to accomplish.)*
- Encouraging public land management (U.S. Forest Service, Bureau of Land Management, Bureau of Reclamation) to remove slash along contiguous borders within the GLRCWPP WUI area to create buffer zones on public lands. *(Resource assistance and collaboration will be required to accomplish.)*
- Acquiring a curtain burner and/or biomass burner for slash disposal along the Florida River corridor. A permanent location for this unit might be next to the proposed Station #9 at the north end of Lemon Reservoir. This burner could potentially be used to heat the station and reduce recurring station costs. *(Resource assistance and collaboration will be required to accomplish.)*
- Practicing erosion control measures while mitigating property by sharing information about the importance of water and water quality in Lemon Reservoir and downstream to Edgemont, Durango and the Florida Mesa. A healthy and clean watershed from the San Juan Mountains into Lemon Reservoir and its tributaries, the Dam, and drainage into the Florida River downstream, devoid of mud and debris, is crucial as it flows from the GLRCWPP and GLRCWPP WUI areas.

Prescribed Burns

Some areas of the Florida River corridor could benefit from prescribed burns. Portions of the 2002 Missionary Ridge Fire burn area within the GLRCWPP and the GLRCWPP WUI have significant fuel. Downed woody fuels exceed 25 tons per acre in some locations and loads in excess of 10 tons per acre are common. Ponderosa pine and Gambel oak fuels burn readily under prescribed burn conditions but are also very consistent and predictable. Prescribed burns remove a large portion of the litter on the forest floor which lowers the intensity and slows the spread of wildfires. Prescribed burns top-kill the Gambel oak, reducing or eliminating ladder fuels, while pruning the lowest branches of the ponderosa pine trees. These factors make the use of prescribed burns a very effective tool for fuel reduction and wildfire mitigation where the lot size is



sufficiently large and the slope is not too great. Prescribed burns are best used in conjunction with mechanical treatments and as an ecologically sound method to maintain and enhance treatments over time.

Structural Vulnerability - Homes and Roads

Recommendations from research and “best practices” regarding structural vulnerabilities to homes and roads include:

- Encouraging property owners to follow the guidelines in the Colorado State Forest Service publication 2012-1 *Creating Wildfire Defensible Zones* for their property, paying close attention to Zone 1 recommendations for the area closest to homes.

- Encouraging construction based on the Colorado State Forest Service publication *Firewise Construction: Site Design and Building Materials*. This research has shown that most homes catch fire from flying embers, not from the flaming fire front. When building and/or remodeling,

residents are strongly encouraged to consider using fire-resistant materials and follow construction guidelines. Structure construction using unpainted rough wood products including wood shake roof shingles is discouraged since those materials are very receptive to sparks and flame. Roof materials such as metal, cement



or cement-fiber shingles and tile are not receptive to sparks, flame and heat. Enclosing soffits with metal screening also discourages ignition of roofs and eaves. (Detailed fire resistant construction guidelines are found in *Firewise Construction, Site Design and Building Materials*, Bueche, Foley, and Slack, December 2012).

- Recommending woodpiles and propane tanks be located at least 30 feet uphill from structures and/or propane tanks be buried beneath the ground.
- Recommending flammable vegetation be cleared at least 10 feet away from woodpiles and propane tanks.
- Recommending enclosing the underside of wood decks and porches so that embers and flames cannot get underneath them; keeping grass or weeds from growing under decks.
- Encouraging property owners to identify their property using the standardized 2” blue reflective house numbers for emergency personnel to more quickly and easily identify homes. (*Resource assistance and collaboration will be required to accomplish.*)

- Encouraging consideration in installing a cistern on private or subdivision property to aid in structure protection as fire trucks can often draft from cisterns greatly reducing turnaround times for the engines and allowing for multi-structure protection; cisterns located higher up in the subdivisions would be of most value. *(Input from the Fire District on placement and specifications will be required to accomplish; resource assistance and collaboration will be required to accomplish.)*
- Recommending residents rake up pine needles within Zone 1 (closest area to the home), under trees, and on roofs as the accumulation of pine needles can be a dangerous ignition source.
- Holding an annual community clean-up weekend and providing options for slash disposal.
- Encouraging subdivisions, homeowners' associations, private property owners, and other stakeholders to continue improvement of roads for safer accessibility to residents and emergency responders.
- Providing assistance and information for grant funding to increase road widths towards the county specifications, improve road drainage, create or expand turnouts and turnarounds for large fire vehicles, improve signage for streets and addresses within neighborhoods, clearly mark dead-end roads and seasonally impassable sections of roads, and encourage pursuit of secondary egress options where possible.
- Encouraging development of shaded fuel breaks to interior road systems by removing unhealthy trees, providing crown spacing of 10 feet between remaining trees, and removing ladder fuels from brush and smaller trees under remaining trees within the right-of-way. This type of treatment will also improve driver visibility along the roads,



Picture Courtesy of Rob Dawes, La Cherade

helping traffic safety. The probability of wildfire moving into or out of the GLR area can be reduced through implementation and maintenance of shaded fuel breaks within interior road rights-of-way and along individual driveways. In the forested areas, a 100 foot wide shaded fuel break is recommended (300 feet would be even better where feasible). The treatment prescription would be the same as Zone 2, i.e., crown spacing of 10 feet between trees, crown spacing of 10-25 feet for tree clusters, 2.5 times the mature height for vegetation in clumps of shrubs, pruning of tree branches up 10 feet, and thinning to no more than 60 trees per acre. Grass areas should be mowed to six inches in height. Thinning of Gambel oak and other montane shrubs along the road edges of CR 240, CR 243, and FSR 596 and 597 is recommended.

Safety - Road Mapping and Road Address Inconsistencies

There are several road names within the GLRCWPP area that are duplicated in different subdivisions. This causes communications problems for emergency response personnel. Collaboration with all affected stakeholders is recommended to resolve this issue for the benefit of all.

The GLR community has become aware of inconsistencies in the map identification for residences used by emergency personnel and La Plata County Geographic Information Systems (GIS) that need to be corrected. The GLR community will recommend working with stakeholders to correct errors so that all information is accurate in the GIS system and other databases utilized by emergency personnel to prevent delays in rendering aid to residents.

Safety – Buffer Zones on Public Lands

Based on research and “best practices,” the GLRCWPP Team will endeavor to:

- Encourage the U.S. Forest Service to consider creating a buffer zone of 150-300 feet with private property borders along the east side of the GLRCWPP WUI zone. Treatment would include a buffer zone for Sierra Verde Estates, La Cherade Park, Hunter’s Ridge, Wilderness Lake Estates, Florida Park, and private parcels outside of these subdivision boundaries but within the WUI area and contiguous to U.S. Forest Service land.

- Encourage the U.S. Forest Service to consider creating a buffer zone of 150-300 feet around the housing areas on the north side of Aspen Trails and Los Ranchitos subdivisions, and private parcels outside of these subdivision boundaries to the north, within the WUI area and contiguous to U.S. Forest Service land.



- Encourage the U.S. Forest Service to thin the forest and mitigate fuels along the CR 243 road right-of-way along Lemon Reservoir and below Lemon Dam, to provide a safer egress route for residents and visitors in the event of an emergency evacuation. Consider a prescribed burn along this corridor for fuels reduction.
- Encourage the Bureau of Land Management to consider creating a buffer zone of 150-300 feet around the housing areas south of CR 240 along the Florida River corridor, within the WUI area and contiguous to Bureau of Land Management land.
- Work with LPEA to reduce fuels along the CR 243 road right-of-way and power line rights-of-way, where trees falling could impede emergency egress during a fire event.

Safety - Evacuation and Emergency Communications

Based on research and “best practices,” the GLRCWPP Team will endeavor to:

- Work with the La Plata County Office of Emergency Management to develop an Emergency Evacuation Plan for each subdivision, private land owners, and for the public recreation areas. The plans will include wildland fire safety zone locations, standard evacuee assembly points, communication trees, and management action points.
- Create an Evacuation Hazard Map.
- Make available general emergency situational awareness sessions on an annual basis with property owners to update emergency communication trees, evacuation routes, and gathering points.
- Develop and maintain a database of GLR area property owners, addresses, telephone numbers, and email addresses for emergency communications.
- Create a telephone tree for emergency contact situations.
- Identify property owners who may need assistance evacuating.
- Identify property owners who need assistance evacuating animals if they are not at home when an evacuation order is given.
- Provide evacuation information on the GLRCWPP website and at presentations and events for evacuation planning, preparing a “Go Bag”, and registering for “Code Red” (the new Reverse 911 system).
- Conduct evacuation drills utilizing the “Code Red” notification system.



POLICIES AND COVENANTS

9.3

Federal Policies

The Healthy Forest Restoration Act of 2003 provides much of the guidance for the GLRCWPP. It encourages:

- a. Resilient conditions
- b. Improving communications between neighborhoods

- c. Aiding emergency response agencies
- d. Accomplishing neighborhood mitigation projects
- e. Creating a knowledge base to enable a proactive eye versus facing tragedy

State Policies

The State of Colorado has experienced high loss of structures with loss of life in the past few years. The State Legislature enacted CRS 39-22-104(4)(n) in 2008, creating a five (5) year program running from 2009 to 2014, subsequently extended through 2024 by the Colorado Department of Revenue, that allows landowners to deduct a portion of the actual costs of their wildfire mitigation from their



state income tax. The program allows a landowner to get credit on state income tax for fifty percent of the costs of wildfire mitigation up to a total of \$2,500. To receive the full benefit, the total mitigation costs must be \$5,000 or more. Prior to 2014, to qualify, the work had to be done in accordance with an existing Community Wildfire Protection Plan; this requirement was dropped with the time extension. Property owners will continue to be encouraged to mitigate their property, and to take advantage of this tax benefit from the State of Colorado. Information about this policy will be posted on the

GLRCWPP website. Recommendation: Encourage the State of Colorado to create a tax credit for use of fire-resistant building materials in new home construction based on the 2009 International WUI Code.

County Policies

As of March 2017, La Plata County does not regulate or influence fuels mitigation on private property. The Land Use Code for the County is currently being revised, and may include recommendations promoting wildfire risk reduction and improved emergency response in the future. However, those regulations will likely only apply to new developments or undeveloped properties. The County Tax Code does not promote fuels mitigation or penalize the lack thereof.

La Plata County standards for driveways, including standards for grade, pullouts and turnarounds, drainage, widths, curve radii, etc., are periodically updated. New construction should be advised of any implications of the new code (not retroactive) – see the La Plata County website, <http://co.laplata.co.us>. Information about La Plata County land use code and driveway standards will be posted on the GLRCWPP website.

Subdivision Policies

The authority and responsibility for managing vegetation on private property within the GLRCWPP area rests with the individual property owners. Road right-of-way in common areas may be a joint responsibility of the HOA or Metro District and property owners. Subdivisions within the GLRCWPP have varying levels of covenants that may be enforceable. These entities will be consulted prior to any vegetation management.

Proposed Fire Station District #9:

A fire station along the CR 243 corridor at the north end of Lemon Reservoir would serve all residents and outdoor enthusiasts recreating in the GLRCWPP and GLRCWPP WUI areas, specifically targeting residents in the northern section. The response time to District #9 is currently 25 minutes or longer, which places the area in an ISO PPC Rating of 10, the highest (and least desired) rating designation (rating scale of 1 being the best and 10 carrying the most risk). This distance is too long when considering the “Golden Hour of Care” for life threatening conditions. The placement of a new station at the north end of Lemon Reservoir would reduce response times to approximately 8 minutes or a distance of 2.1 miles in either direction. All residents in the northern section of the GLRCWPP area would be within 5 miles of the proposed fire station. Additionally, this station would serve as the secondary response station to support Station #3 (a volunteer station) at Aspen Trails.

As of August 2016, the Upper Pine River Fire Protection District began keeping records of calls specific to District #9. It is anticipated these numbers will be used to substantiate the need for a future fire station.



The ability to obtain insurance in an ISO PPC 10 rated area is difficult, regardless of the individual or the property. Many times, insurance is unavailable through standard markets, and insurance companies must refer homeowners to specialist insurance market policies to even obtain a policy – regardless of the mitigation treatments completed on the property. A new station would elicit a lower ISO rating (potentially a rating of 4). This would relieve both the emotional stress of delayed emergency response and the financial burden for property owners in an ISO 10 area who currently experience premiums double or triple that of neighbors in an ISO 4 rated area. A lower ISO rating would relieve pressures on local property owners and cause homeowners’ insurance rates to be better aligned with other insurance costs in La Plata County. A lower rating would make buying and selling property in the area more appealing as homeowners’ insurance would be more accessible and more affordable.

This new fire station along the CR 243 corridor at the north end of Lemon Reservoir would be operated by the Upper Pine River Fire Protection District which has expressed interest in acquiring property for a resident (manned) station outfitted with living quarters, a well, and a septic system. This would likely include acquiring or leasing of a parcel of land to accommodate well and septic system requirements. The station would be a multi-agency, multi-function station supporting Forest Service firefighters, La Plata County Office of Emergency Management, La Plata County Search and Rescue, and the La Plata County Sheriff’s Office.

The proposed fire station would provide a location for First Responder communication devices and cellular telephone boosters. When emergency management personnel enter the GLRCWPP WUI, they often experience “dead zones” for emergency communications. Access to cellular and radio communications in close proximity to a large body of water (lake, river), outdoor activities (rock climbing, hiking), and areas of limited egress would serve to reduce response times, enhance coordination between emergency response personnel, and contribute to save lives and values at risk.

The proposed fire station would also have available an Automated External Defibrillator (AED). This is a critical piece of lifesaving equipment for area residents, visitors, and tourists. The station would serve as a good location for an emergency siren to notify residents and visitors in an emergency.

In February 2012, a propane leak was the cause of a devastating explosion at an occupied residence located in the Upper Lemon Valley. The family of three (3) was severely injured, and the only reason lives were saved was because one family member was discovered after the explosion and was taken to a neighbor’s house to use the landline to call authorities. Forty minutes after the call, emergency responders arrived at the property to find the house reduced to toothpicks. The other two family members were trapped underneath 4-6 feet of debris. They had been trapped there for more than an hour in temperatures in the teens. The house was built to withstand heavy snow



loads, and the massive support beams were brought to the ground. The explosion lifted the roof off its support beams, shredded the walls, and obliterated the floor. The debris field stretched 300 feet in radius. Insulation rained from the sky until 1 o’clock in the morning. Butch Knowlton, Director of the La Plata County Office of Emergency Management said, “The mere fact that the family survived is a miracle.” The need for emergency management personnel to be stationed further into the GLR area is very real.

Cellular Telephone Tower / Booster

There is currently no method of mass communication and there are no public telephone landlines available to residents and visitors to the GLR area. As society in general migrates from landline telephones to cellular telephones and develops greater need for internet service, advanced communications infrastructure is fast moving from a luxury to a necessity. The ability for emergency management to be able to “ping” cellular telephones in the case of emergency would increase the ability to organize egress efforts and evacuate people, notify residents and stakeholders of danger, and provide assistance to the elderly and to individuals with varying degrees of disability who cannot get out of the area by themselves. This infrastructure would also give residents and visitors the ability to call out for help when there is an emergency at the Lake, at one of the campgrounds, by the river, during a hike, or while driving. La Plata County utilizes “Code Red” (Reverse 911) notification which allows cellular telephones to be registered for emergency notifications. Most visitors expect their cellular telephones to work everywhere they go. A cellular

telephone tower or booster to improve signal along the entire WUI area of the GLR corridor and the Upper Florida River corridor would be beneficial and possibly life-saving. *(Resource assistance and collaboration would be required to accomplish.)*

Fire Danger Signage at Major Junctions

Due to the large influx of seasonal residents, tourists, and outdoor enthusiasts utilizing the GLR area, it would be beneficial to communicate fire danger risk levels in a very visible manner. Posting fire danger signs at the Upper Pine River Fire Protection District Station #3, near Lemon Dam, and/or at the entrance to Miller Creek and Transfer Park campgrounds would provide immediate information to the greatest populations at risk. Signage on CR 243 would be beneficial for those who arrive at Lemon Reservoir from the east. These signs would be an important alert to visitors not necessarily familiar with area fire danger conditions. *(Resource assistance and collaboration would be required to accomplish.)*

Community Bulletin Boards at Major Junctions

For a geographically large and diverse population, notification bulletin boards would be helpful for information dissemination and notifications. Targeted locations include:

1. Entrance to Aspen Trails / Trew Creek
2. Community mailboxes at La Cherade / Sierra Verde
3. Community mailboxes at Wilderness Lake Mountain Estates
4. Helen's Country Store
5. Proposed Fire Station #9



Water Sources for Fire Protection District

The lack of water sources – hydrants, cisterns, and water taps – for fire engines is a major problem for fire suppression efforts. Water could potentially be drafted from the Florida River and from Lemon Reservoir. Creating a site for easier access would be beneficial to the Upper Pine River Fire Protection District, residents, tourists, and other values at risk. It is also possible to seek out and identify additional water retrieval and storage locations within existing subdivisions to improve fire response time, such as the pond at the Three Trails Ranch. The optimal size of a water retrieval or storage location would be 30,000 gallons. *(Resource assistance and collaboration would be required to accomplish.)*

Community Equipment and Tools

It would be helpful to obtain community mitigation equipment and tools. Equipment could include: pruners, loppers, rakes, gloves, shovels, wheelbarrows, pick-up trucks, trailers, pole and reciprocating saws, safety glasses, ear protection, chainsaws, wood splitters, wood chippers, or biomass burners. *(Resource assistance and collaboration would be required to accomplish.)*

Community Meeting Space

Currently, the area does not have a facility available to hold neighborhood meetings. This could be accomplished through the planning of the proposed fire station for District #9. A community meeting room / conference room could be included in the design of the building and facilities. This



area could also be utilized for training and educational events provided by subject matter experts from the Upper Pine River Fire Protection District, FireWise of Southwest Colorado, Colorado State Forest Service, U.S. Forest Service, and Bureau of Land Management.

Miscellaneous

- Postage for mailings to community members without email access.
- Electronic and hard copy wildfire/mitigation materials/information for distribution to residents.
- Loaner copies of educational DVDs for neighborhood viewing events.

RECOMMENDATIONS CHARTS

9.5

Specific Recommendations and Community Priorities

The GLR community has general recommendations and priorities. Each subdivision has specific areas of interest and concern. Please see the following Recommendations Charts.



RECOMMENDATIONS CHART
GENERAL FOR GLRCWPP

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Infrastructure	Fire Station #9	provide emergency response within 5 miles of properties in District #9	reduce ISO rating by finding suitable land for manned-station at north end of Lemon Reservoir; 3 acres, well, septic		1			ASAP
	community meeting space	acquire space for the GLR community to meet	could be included in the plans for proposed Station #9		2			5-10 years
	cell tower / booster	better communication while in the GLR area	emergency, resident, and visitor communications		1			3-5 years
	fiberoptic lines for internet	internet connections	residents and visitors		3			5-10 years
	phone service at campgrounds	safety in recreation areas	Miller, Upper Lemon, Florida, and Transfer Park		3			3-5 years
	biomass burner	biomass burner for fuels disposal	fuel load is very heavy; burner could be located at proposed Station #9		2			ASAP
	emergency warning system	warning system - siren	could be located at proposed Station #9		2			3-5 years
	landing space for heli-tac	designate landing spaces for heli-tac aircraft	flat, cleared area for safe landing; lights; remote access		2			1 year
Safety	reflective address signs	reflective address signage on all residences			1	\$7,500		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
	correct road name duplications	road name duplication and mapping improvement EMS / OEM / LPC / UPS / FedEx coordination			1			1-3 years
	fire danger sign	install fire danger sign at UPFPD Station #3			1			1-3 years
	fire danger sign	install fire danger sign near Lemon Dam			1			1-3 years
	fire danger sign	install fire danger sign near Miller Campground and/or Transfer Park			1			1-3 years



RECOMMENDATIONS CHART
GENERAL FOR GLRCWPP *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Improved Communications	bulletin board	obtain funding and install bulletin board for GLRC and visitor communications	located at Upper Lemon Day Use Area					1-3 years
	bulletin board	obtain funding and install bulletin board for GLRC and visitor communications	seek permission from owner (Don Hutchens) and locate at Helen's Corner Liquor Store		2			1-3 years
	bulletin board	obtain funding and install bulletin board for GLRC and visitor communications	located at the Proposed Station #9 when built					TBD
	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Equipment Resources	Tool Bank equipment	obtain equipment for Tool Bank for mitigation efforts	hand tools, power tools, wood chipper, wood splitter, safety equipment, chainsaw, sawzall, pole saw, loppers, pruners, gloves, and replace as needed		3			
Water Resources	water storage	storage tank for fire suppression in subdivisions	30,000 gallon capacity desired (10,000 gallon is \$10,000)			\$30,000		10-20 years
	dry hydrants	install dry hydrant at Lemon Reservoir for UPFPD	6" pipe from reservoir to road, 2 needed for area, 20' max updraft		3			10-20 years
Road Improvements	secondary egress	secondary egress from GLR area	land acquisition and road building			TBD		
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners, and enlarging cul-de-sacs				\$1,500-\$2,000 per acre		
	turnouts and hammerheads	improve turnouts and hammerheads						
	protect egress for residents	CR 240 and CR 243 ROW corridor and area between Helen's Store and Lemon Dam	proect access, bridges, easements		1	\$5,000 per mile		



RECOMMENDATIONS CHART
GENERAL FOR GLRCWPP *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Fuels and Slash Reduction	fuels and slash reduction	fuels and slash reduction along USFS north perimeter of GLRCWPP properties	create a 100' fuels reduction/slash mitigation buffer zone along USFS north perimeter			\$2,000 per acre		3-5 years
	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	ROW mitigation	ROW mitigation along CR 243				\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures	create zone 1, 2, 3 defensible space around all homes and structures					
	shaded fuel break	shaded fuel break buffer along Miller Creek	high fuels area along the creek		1	\$10,000		3-5 years
	defensible space buffer zone	100' buffer border treatment along WUI / subdivisions / private parcels / USFS			2	\$2,000-\$5,000 per acre		10-20 years
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			
	Sweetwater Springs	engage residents in Sweetwater Springs	implement thinning project and shaded fuel breaks			\$2,000-\$5,000 per acre		10 years
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
ASPEN TRAILS

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$3,000		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
	correct road name duplications	road name duplication and mapping improvement EMS / OEM / LPC / UPS / FedEx coordination			1			1-3 years
	fire danger sign	install fire danger sign at UPFPD Station #3			1			1-3 years
Improved Communications	updates to bulletin board	subdivision communications						2015 - done 2016 - done annually thereafter
	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Equipment Resources	Tool Bank equipment	obtain equipment for Tool Bank for mitigation efforts	hand tools, power tools, wood chipper, wood splitter, safety equipment, chainsaw, sawzall, pole saw, loppers, pruners, gloves, and replace as needed		3			
Water Resources	water storage	storage tank for fire suppression	30,000 gallon capacity desired (10,000 gallon is \$10,000)			\$30,000		10-20 years
	community water supply	community water supply	individual wells drying up, consider central water system					20 plus years
Road Improvements	secondary egress	secondary egress from subdivision and east side of ATMD	land acquisition and road building			\$50,000		
	turnouts and hammerheads	improve turnouts and hammerheads				\$3,000-\$5,000 per		



RECOMMENDATIONS CHART
ASPEN TRAILS *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners, and enlarging cul-de-sacs				\$1,500-\$2,000 per acre		
	improvements to Sierra Circle and Aspen Drive	improve impassable road sections on Sierra Circle and Aspen Drive (loop section)						
Fuels and Slash Reduction	border of Aspen Trails and Los Ranchitos	partner for fuels and slash reduction at Los Ranchitos and Aspen Trails border				\$2,000 per acre		
	USFS north perimeter	USFS north perimeter fuels reduction / slash mitigation						3-5 years
	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures						
	100' buffer	100' buffer border treatment along WUI / subdivisions / USFS			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			
	Los Ranchitos and Aspen Trails	develop working partnerships for mitigation between Los Ranchitos and Aspen Trails	goodwill is priceless		1			
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
TREW CREEK ESTATES

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$2,500		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$ 250 per sign		1-3 years
	correct road name duplications	road name duplication and mapping improvement EMS / OEM / LPC / UPS / FedEx coordination			1			1-3 years
	fire danger sign	install fire danger sign at UPFPD Station #3			1			1-3 years
Improved Communications	updates to bulletin board	subdivision communications			2			2015 - done 2016 - done annually thereafter
	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	secondary egress from subdivision and east side of ATMD	land acquisition and road building			\$50,000		
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners, and enlarging cul-de-sacs				\$1,500-\$2,000 per acre		
	turnouts and hammerheads	improve turnouts and hammerheads				\$3,000 - \$5,000 per		
	improvements to Sierra Circle and Aspen Drive	improve impassable road sections on Sierra Circle and Aspen Drive (loop section)						
Fuels and Slash Reduction	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures				\$ 2,000-5,000 per acre		
	100' buffer	100' buffer border treatment along subdivision			1			



RECOMMENDATIONS CHART
TREW CREEK ESTATES *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
HACIENDAS DE LA FLORIDA

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$3,000		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
Improved Communications	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	consider secondary egress from subdivision	possible land acquisition and road building			\$30,000		
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners				\$1,500-\$2,000 per acre		
Fuels and Slash Reduction	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	ROW mitigation	ROW mitigation along CR 243				\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures						
	100' buffer	100' buffer border treatment along WUI / subdivision / USFS			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements have been made?					annually



RECOMMENDATIONS CHART
HUNTER'S RIDGE

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$750		1-3 years
Improved Communications	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	consider secondary egress from subdivision	possible land acquisition and road building			\$30,000		
	road ROW mitigation	improve ROW access through mitigation				\$1,500-\$2,000 per acre		
Fuels and Slash Reduction	homes and structure defensible space	create defensible space around all homes and structures						
	100' buffer	100' buffer border treatment in subdivision			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	participate in an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
LA CHERADE PARK

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$2,000		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
	correct road name duplications	road name duplication and mapping improvement EMS / OEM / LPC / UPS / FedEx coordination			1			1-3 years
Improved Communications	bulletin board	obtain funding and install bulletin board for subdivision communications			2			1-3 years
	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	consider secondary egress from subdivision	possible land acquisition and road building			\$50,000		
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners, and enlarging cul-de-sacs				\$1,500-\$2,000 per acre		
	turnouts and hammerheads	improve turnouts and hammerheads	consider adding a turn around at the well house					
Fuels and Slash Reduction	USFS perimeter	USFS perimeter fuels reduction / slash mitigation						3-5 years
	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	defensible space	create defensible space around all homes and structures						
	shaded fuel break	shaded fuel break buffer along Miller Creek	high fuels area along the creek		1	\$10,000		3-5 years
	100' buffer	100' buffer border treatment along WUI / subdivision / USFS			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			



RECOMMENDATIONS CHART
LA CHERADE PARK *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
SIERRA VERDE ESTATES

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$2,500		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
	correct road name duplications	road name duplication and mapping improvement EMS / OEM / LPC / UPS / FedEx coordination			1			1-3 years
Improved Communications	bulletin board	obtain funding and install bulletin board for subdivision communications			2			1-3 years
	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	consider secondary egress from subdivision	possible land acquisition and road building			\$50,000		
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners, and enlarging cul-de-sacs				\$1,500-\$2,000 per acre		
	turnouts and hammerheads	improve turnouts and hammerheads						
Fuels and Slash Reduction	USFS north perimeter	USFS north perimeter fuels reduction / slash mitigation						3-5 years
	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures						
	shaded fuel break	shaded fuel break buffer along Miller Creek	high fuels area along the creek		1	\$10,000		3-5 years
	100' buffer	100' buffer border treatment along WUI / subdivision / USFS			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			



RECOMMENDATIONS CHART
SIERRA VERDE ESTATES *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
FLORIDA PARK

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$1,000		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
Improved Communications	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	consider secondary egress from subdivision	possible land acquisition and road building			\$40,000		
	road ROW mitigation	improve ROW access through mitigation				\$1,500-\$2,000 per acre		
Fuels and Slash Reduction	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures						
	100' buffer	100' buffer border treatment in subdivision			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	participate in an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



RECOMMENDATIONS CHART
WILDERNESS LAKE MOUNTAIN ESTATES

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Safety	reflective address signs	reflective address signage on all residences			1	\$2,500		1-3 years
	dead end signs	dead end signs at dead end roads			1	\$250 per sign		1-3 years
	correct road name duplications	road name duplication and mapping improvement EMS / OEM / LPC / UPS / FedEx coordination			1			1-3 years
Improved Communications	bulletin board	obtain funding and install bulletin board for subdivision communications			2			1-3 years
	Code Red Reverse 911	achieve 100% property owner registration to the Code Red Reverse 911 system			1			1 year
	outreach	outreach to WUI contiguous subdivision and non-subdivision property owners			2			3-5 years
Road Improvements	secondary egress	consider secondary egress from subdivision	possible land acquisition and road building			\$50,000		
	road ROW mitigation	improve ROW access by adding turnouts, increased visibility around blind corners, and enlarging cul-de-sacs				\$1,500 - \$2,000 per acre		
	turnouts and hammerheads	improve turnouts and hammerheads				\$3,000 - \$5,000 per		
Fuels and Slash Reduction	USFS north perimeter	USFS north perimeter fuels reduction / slash mitigation						3-5 years
	common areas	subdivision mitigation in common areas	fuel breaks			\$20,000 per mile		
	homes and structure defensible space	create defensible space around all homes and structures						
	100' buffer	100' buffer border treatment along WUI / subdivision / USFS			1			
Partnerships	goodwill	USFS, BoR, FWCD, UPFPD, FireWise, CSFS, BLM	goodwill is priceless		1			



RECOMMENDATIONS CHART
WILDERNESS LAKE MOUNTAIN ESTATES *(continued)*

Category	Item	What we want to accomplish:	Notes	What has been done?	Priority Ranking	Cost Estimate	Actual Cost	Target Date
Monitoring	pictures	ground and aerial photos to track improvements			3			3-5 years
	annual event	plan an annual event toward education and/or mitigation work within CWPP area	measure accomplishment by attendance, work completed, feedback from property owners					annually
	CWPP review	CWPP review	what needs to be updated in the Plan?					2-3 years
	annual meeting	annual meeting to assess progress						annually
Reporting	CWPP progress report	CWPP progress report to FireWise, CSFS, and property owners	what improvements and progress have been made?					annually



MONITORING AND EVALUATION

SECTION 10

Stakeholders

Every GLR area resident, landowner, and visitor to the area is a GLR community stakeholder. Additionally, the federal agencies managing lands included in the GLRCWPP WUI boundaries, the downstream water users, insurers, and tax payers who end up paying much of the costs of wildfires all have a stake in the health and future of the community.

Objectives

The GLRCWPP Team will seek funding sources through the Colorado State Forest Service, the Upper Pine River Fire Protection District, FireWise of Southwest Colorado, and any other possible avenue for the purpose of implementing this plan. In addition, the Team commits to do the following:

- Encourage property owners to take steps to mitigate fire risk on their property and participate cooperatively toward that goal in the community.
- Promote a prevention attitude in the community for wildfire prevention by providing presentations at neighborhood meetings.
- Improve communications with GLR area stakeholders by installing neighborhood bulletin boards to share critical information and posting information to the following websites created for this CWPP group:

Greater Lemon Reservoir Facebook page:

<https://www.facebook.com/GreaterLemonCWPP>

Greater Lemon Reservoir CWPP website:

<https://sites.google.com/site/greaterlemonreservoircwpp>

Greater Lemon Reservoir email account for community input:

GreaterLemonCWPP@gmail.com

- Work toward the goal of having a Fire Adapted Community. A “Fire Adapted Community” incorporates people, buildings, businesses, infrastructure, cultural resources, and natural areas into the effort to prepare for the effects of wildland fire. Information is offered at www.fireadapted.org regarding specific actions that can be taken, no matter the individual’s role, to reduce the risk of the next wildfire.
- Facilitate and promote cooperation between the GLRCWPP Team and area stakeholders.
- Create an annual event to share GLRCWPP accomplishments, build a greater community presence, and hear feedback from the residents on CWPP issues.

Annual Progress

Monitoring progress will be necessary in order to see this CWPP succeed. It will be important to celebrate and document accomplishments (both big and small) on an annual basis. The GLRCWPP Team will request input from property owners regarding associated accomplishments, including “Lessons Learned”, and revisit this Plan each summer prior to the annual meeting. The Plan will be updated as the community expands its interaction, recognizes additional areas of concern, and achieves accomplishments.

Quantifying and qualifying progress will be measured by tallying volunteer hours and cost share dollars spent, monitoring property values over time as mitigation is completed, noting insurance rate changes, and observing the visual appearance of the neighborhoods. Participation in meetings, in neighborhood clean-up days, in chipper rebate programs, and in property risk assessments will also serve as a good gauge of progress. Input will continue to be received from members of FireWise and the Upper Pine River Fire Protection District.



Residents will be encouraged to share their ideas and accomplishments (and hours volunteered) by contacting their neighborhood FireWise Ambassador, GLRCWPP Team member, posting individual and group progress to the Facebook page, or by sending an email to the CWPP Team at: GreaterLemonCWPP@gmail.com.

A formal review to update to the CWPP will be conducted every 5 years (or as needed) and submitted to the GLRCWPP community, FireWise of Southwest Colorado and the Colorado State Forest Service.

Community Update

Area stakeholders will be updated on the wildfire mitigation progress within the community by posts to the websites, reports provided at homeowners’ association and Metro District meetings, as well as through a presentation during the scheduled annual event. Additionally, annual reporting will be submitted to FireWise of Southwest Colorado.

Evaluation

Considering the values at risk, it will be important for the GLRCWPP Team to gauge the GLR community’s wildfire safety accomplishments and continued needs on an annual basis. During the months spent developing the GLRCWPP framework and seeking input from property owners, several important observations have been made.

Many property owners are new transplants to life within a WUI area and thus have not experienced a major fire event like the Missionary Ridge Fire of 2002. People are busy and often do not consider

taking time to learn about preparing their home and their community for a potentially devastating wildfire. The GLR area's summer seasonal demographic of residents are largely retirees who may not have the physical ability or resources to perform mitigation work on their property. The GLR area has also not been organized and promoted as a community with common interests and concerns, nor has the area had a community-wide program of which to be a part.



Picture Courtesy of Rob Diwan, LA Cherokee

Regardless of the reason for lack of activity in the past, educating and engaging property owners on wildfire preparedness and creating a community attitude of “together we stand,” can present life-saving results. While education and preparation cannot guarantee structures and resources will be saved, they can remove the fear and anxiety surrounding devastating fires and can help provide peace of mind.

Saving lives and values at risk is the end-game of the Greater Lemon Reservoir Community Wildfire Protection Plan.



ACRONYMS

AOP	Annual Operating Plan
ATS	Aspen Trails Subdivision
ATMD	Aspen Trails Metropolitan District
BLM	U.S. Bureau of Land Management
CG	Campground
CO-WRAP	Colorado Wildfire Risk Assessment Portal
CR	County Road
CSFS	Colorado State Forest Service
CWPP	Community Wildfire Protection Plan
DOLA	Department of Local Affairs (Colorado)
DFPC	Division of Fire Prevention and Control
EFE	Enchanted Forest Estates
EFF	Emergency Fire Fund (Colorado)
FAC	Fire Adapted Community
FGE	Forrest Groves Estates
FP	Florida Park Subdivision
FSR	Forest Service Road
FWCD	Florida Water Conservancy District
GIS	Graphical Information System
GLRC	Greater Lemon Reservoir Community
GLRCWPP	Greater Lemon Reservoir Community Wildfire Protection Plan
HDLF	Haciendas de la Florida Subdivision
HFRA	Healthy Forests Restoration Act of 2003
HIZ	Home Ignition Zone
HOA	Homeowners' Association
HR	Hunter's Ridge Subdivision
LC	La Charade Subdivision
LPC	La Plata County
LRE	Los Ranchitos Estates
NFFL	National Forest Fuel Laboratory
RMP	Resource Management Plan
SVE	Sierra Verde Estates Subdivision
TCE	Trew Creek Estates Subdivision
TLE	'Tween Lakes Estates
UPRFPD	Upper Pine River Fire Protection District
USBR	U.S. Bureau of Reclamation
USFS	U.S. Forest Service
VC	Vallecito Community
WLE	Wilderness Lakes Estates Subdivision
WFMP	Wildland Fire Management Plan
WUI	Wildland-Urban Interface



GLOSSARY OF TERMS

acre: an area of land containing 43,560 square feet. A square acre is 209 feet by 209 feet. A circular acre would have a radius of 117.75 feet.

basal area: the cross-sectional area of a single stem, including the bark, measured at breast height (4.5 feet above the ground) For example, the basal area of a tree 13.5 inches in diameter at breast height is about 1 square foot. Basal area = 0.005454 times diameter squared. (b) of an acre of forest: the sum of basal areas of the individual trees on the area. For example, a well-stocked pine stand might contain 70 to 90 square feet of basal area per acre.

canopy: the foliage formed by the crowns of trees in a stand.

defensible space : an area around a structure where fuels and vegetation are treated, cleared or reduced to slow the spread of wildfire towards the structure.

diameter at breast height (dbh): the diameter of a stem of a tree at 4 ½ feet above the ground.

downed fuels: the accumulated woody and vegetative material on the forest floor from leaf/needle fall, natural pruning and breakage that serves as fuel for wildfire.

ecosystem: a spatially explicit, relatively homogenous unit of the earth that includes all interacting organisms (plants, animals, microbes) and components of the abiotic environment within its boundaries. An ecosystem can be of any size: a log, pond, field, forest, or the earth's biosphere.

fire hazard: a fuel complex, defined by volume, type, condition, arrangement, and location that determines the degree of ease of ignition and the resistance to control (NWCG, 2003).

fuel loading: the oven-dry weight of fuel per unit area.

ladder fuels: combustible material that provides vertical continuity between vegetation strata and allows fire to climb into the crowns of trees or shrubs with relative ease.

litter: the surface layer of a forest floor that is not in an advanced stage of decomposition, usually consisting of freshly fallen leaves, needles, twigs, stems, bark, and fruits.

lop and scatter: a hand method of removing the upward facing branches from tips of felled trees to keep slash low to the ground, to increase rate of decomposition, lower fire hazard, or as a pretreatment prior to burning.

sapling: a usually young tree larger than a seedling but smaller than a pole.

shaded fuelbreak: a strategically located strip or block of land (of varying width) depending on fuel and terrain, in which fuel density is reduced, thus improving fire control opportunities. The stand is

thinned and remaining trees are pruned to remove ladder fuels. Most brush, heavy ground fuels, snags and dead trees are removed and an open park-like appearance established.

silviculture: the art, science, and practice of establishing, tending, and reproducing forest stands of desired characteristics. It is based on knowledge of species characteristics and environmental requirements.

slash: the residue of treetops and branches left on the ground after logging or accumulating as a result of storms, fire, girdling or de-limbing.

snag: a standing, generally unmerchantable dead tree from which the leaves and most of the branches have fallen.

stand: a contiguous group of trees sufficiently uniform in age-class distribution, composition, and structure, and growing on a site of sufficiently uniform quality, to be a distinguishable unit.

thinning: a cultural treatment made to reduce stand density of trees primarily to improve growth, enhance forest health, or recover potential mortality.

wildland-urban interface (WUI): the geographical meeting point of two diverse systems -wildland and structures. In the WUI, structures and vegetation are sufficiently close so that a wildland fire could spread to structures or a structure fire could ignite vegetation.

Definitions except defensible space, fire hazard, shaded fuelbreak and wildland-urban interface from "The Dictionary of Forestry," John A. Helms, editor.



REFERENCES AND RESOURCES

Colorado State Forest Service: <http://csfs.colostate.edu/>

excellent information and links to all CWPPs in Colorado to date, listed by county

Creating Wildfire Defensible Zones:

http://static.colostate.edu/client-files/csfs/pdfs/FIRE2012_1_DspaceQuickGuide.pdf

Publications on the Colorado State University Extension website:

<http://extension.colostate.edu>

Protecting Your Home from Wildfire

Fire-Resistant Landscaping

Forest Home Fire Safety

FireWise Plant Materials

Grass Seed Mixes to Reduce Wildfire Hazard

Cheatgrass and Wildfire

Gambel Oak Management

Wildfire Preparedness for Horse Owners

Mastication Operational Guidelines

FireWise Construction: Site Design & Building Materials

Fuel Break Guidelines for Forested Subdivisions & Communities

Addressing the Impacts of Wildfire on Water Resources

Wildfire Threat Reduction Tips: www.livingwithfire.info

The brochure “Be Ember Aware!” is especially important to read for understanding vulnerabilities about the home and for mitigation tips.

Preparing a Community Wildfire Protection Plan (handbook):

<http://www.stateforesters.org/files/cwpphandbook.pdf>

Leaders Guide to Preparing a CWPP:

http://csfs.colostate.edu/pdfs/CWPP_LG.pdf

Community wildfire Protection Plan Evaluation Guide:

http://csfs.colostate.edu/pdfs/evalj_9-08_web.pdf

Community Guide to Preparing & Implementing a CWPP:

http://csfs.colostate.edu/pdfs/CWPP_Report_Aug2008.pdf

Fire Adapted Communities:

<http://www.fireadapted.org>

National Firewise Organization: <http://www.firewise.org/>

Information and resource links to enhance dialog, networking, increase the sharing of learning and innovations related to community wildfire resilience

- See tabs on Wildfire Preparedness, Recognition Program, Online Courses, and Education
- See articles by Jack D. Cohen, Research Physical Fire Scientist, USFS, Missoula

National Fire Protection Association (NFPA): www.nfpa.org/catalog

products, handbooks, code info, DVDs

- Many of the Wildfire Safety items can be ordered in bulk for free.

Wildfire Research: <http://wildfireresearch.wordpress.com>

research on wildfire risk, homeowner perception of risk, and how certain behaviors or experiences influence homeowners to participate in wildfire mitigation activities. Homes are assessed by a wildfire specialist on 11 elements that have the potential to increase wildfire risk: addressing and evacuation, home construction characteristics, defensible space and background fuel types. Results from the assessment provide each home with a relative risk rating. Homeowners are also sent a survey mailing which asks them to self-assess. Wildfire Council conducting this research can be found at: www.COwildfire.org.

Colorado Wildfire Risk Assessment Portal (CO-WRAP): www.coloradowildfirerisk.com

web-mapping tool

Healthy Forest Restoration Act (HFRA) of 2003: www.fs.fed.us

(search for “hfra”)

Natural Resources Grants and Assistance Database: <http://nrdb.csfs.colostate.edu>

Neighborhood Ambassador Program: www.southwestcoloradofires.org

click on Neighborhood Ambassador Program and then Volunteer Time Report to enter volunteer hours, miles, and money spent. Use Greater Lemon Reservoir as the “subdivision”. Entering your hours, miles, and money will help us achieve match on grant opportunities.



MEETINGS AND ACTIVITIES

page

MEETINGS AND NOTES

February 23, 2016	100
April 7, 2016	103
May 11, 2016	104
July 13, 2016	107
August 10, 2016	109
September 14, 2016	110
October 12, 2016	111
February 15, 2017	114
March 8, 2017	116
April 12, 2017	118
May 17, 2017	120

ACTIVITIES AND FLYERS

May 2016 – Mass Mailing to GLR Property Owners	121
May 22, 2016 – Aspen Trails Field Trip	123
June 12, 2016 – La Cherade and Sierra Verde Field Trip	
May 6, 2017 – Demonstration Day, “Mitigation 101”	125

02/23/2016

Greater Lemon CWPP Meeting Notes

Thank you ALL for taking the time to participate in the community kick-off meeting last Tuesday! What a fantastic turn-out! Every community was so well represented!

It has now been clarified that there are actually several neighborhoods and several individual property owners past the dam, and we are grouping them all as “Lemon” – including Sierra Verde, La Charade, and Wilderness Lake Mountain Estates.

Discussions –

- Basics about FireWise
- Benefits of developing a Community Wildfire Protection Plan (CWPP)
- Consensus that the Lemon area will move forward with Aspen Trails as a joint complimentary group
- Meetings set for every 4-6 weeks

A meeting poll will be sent out via email which will help to determine which day and location works best for the greatest number of people. Third week of April was being considered – so stay tuned. If you are not able to attend, we will send an email update with what is discussed.

The goals of the next meeting seem to be:

1. to outline the boundaries for the Aspen/Lemon CWPP (also called the Wildland Urban Interface, WUI)
2. to identify areas of greatest risk
3. identify private and public interests and values at risk:
 - a. Infrastructure
 - i. LPEA
 - ii. Communications – Century Link / radio / cell towers
 - iii. Bridges
 - iv. Dam
 - v. Water storage
 - b. Homes
 - c. Nesting areas
 - d. Special fishing areas
 - e. Areas of historical significance
 - f. Natural risks – i.e. coal seams

As a side note - one of the long-term goals of the Lemon residents is to encourage building a fire station north of the dam. One of the first steps toward this goal is to finish a CWPP. Meetings and other forms of communication (emails, newsletters) are a big part of showing our joint concern. Much of the property north of the dam is subject to the highest fire ratings. Having a manned fire station within 5 miles would do a lot for emergency management response, insurance ratings, and peace of mind.

- There is a 13 person fire mitigation group comprised of wildland firefighters who are looking for other neighborhoods to help. This group taps into grants for funding. They are finishing another area and could potentially choose our area as their next project or as a project in the near future.
- Deer Valley is a great place to take a field trip to see what mitigation looks like. Mr. Les Cole received a Best Practice Award for the work at Deer Valley.
- The Healthy Forest Restoration Act of 2003 is where much of the guidance comes from. It encourages:
 - o Resilient conditions
 - o To improve communications between neighborhoods
 - o To aid emergency response agencies
 - o To accomplish projects
 - o To create a knowledge base – to have a proactive eye versus facing tragedy
- All of our participation puts some pressure on federal agencies to assist areas that are already being addressed by concerned property owners.
- Collaboration is the key word and the key activity - people working together to address a shared problem that no one of them could effectively resolve alone.
- We need to remember:
 - o to be open and transparent through the process
 - o to have reasonable expectations
 - o to remain committed to the process
- Missionary Ridge Fire in 2002 burned 73,000 acres.
- Several examples of other areas' CWPP plans were perused. Each plan is linked on the Upper Pine River Fire Protection District's website, <http://upperpinefpd.org/cwpp>, if you would like to take a closer look.
- Vallecito completed their CWPP in less than two years. (Do I sense a throw-down? – ha!)
- Implementing a CWPP in our area would give legitimacy and an avenue through which to get things done.
- This needs to work for our community. The CWPP has no binding requirement and has no authority to make us do anything, but the organizations involved are a terrific source of knowledge, contacts, resources and encouragement. Accomplishing a CWPP for our area only says that we, as a community, have recognized the need and want to implement some of their ideas.

Your participation in this effort is a way to get the attention needed to receive the available help!

If you know of others who would like to be included in the meetings, please have them to send us their contact information, and they will certainly be included. Attached is the contact sheet from last Tuesday's meeting. (Please be mindful of releasing other people's personal information.)

Acronyms not known before (rough definitions):

- CWPP Community Wildfire Protection Plan – a written plan which establishes a geographical area in which property owners have interest, keep in contact, and work together with stakeholder organizations on improvements – large or small (FireWise, Forest Service, Emergency Management teams, Fire District). It is a compilation of recommendations for long term planning.
- WUI Wildland Urban Interface – a defined area of land where people border wildlands and public lands
- Stakeholders Property owners and organizations like FireWise, Forest Service, Emergency Management entities, the Fire District

We'll see you soon!

04/07/2016

Greater Lemon CWPP meeting notes

Agenda Items covered: Wildland Urban Interface (WUI) boundary, timelines for meetings, field trip dates, begin identifying values at risk

The meeting was held at the Durango Fire and Rescue training room. A map of the greater Lemon area was presented. A Wildland Urban Interface (WUI) was identified. The map also worked to identify what is termed as "values at risk". Below is a list of those identified at the meeting;

- Transfer park/ climbing area both E & W of road
- Florida campground
- Florida Day comp (cattle guard area)
- Miller / 3+ camping spots, parking and camping at base of dam
- Bridges; one at Florida campground, Kelly ranch and others identified later
- Eagle and osprey nesting sites west of Lemon
- Telephone boxes (to be mapped later with help of Centurylink)

Field trips: It was decided that two field trips would occur:

- a. From the dam down to Aspen trails (all areas in between), Sunday, May 22nd 1-4 with approximately 4 stops to areas to be identified later
- b. From dam up north: Sunday, June 12th 1-4 with approximately 4 stops (one including a look at the main access road), to be identified later.

Subsequent meetings; The tentative meeting schedule for the Greater Lemon CWPP core group interested in pursuing the writing of the CWPP has been set for the 2nd Wednesday of every month. The next scheduled meeting is for Wednesday, May 11th; 5:30p.m.-7:30p.m. @ Judy Bolton's house located at 771 Aspen Drive in Aspen Trails. Contact number is 970-247-0893 for directions.

Subsequent information: there was some discussion on National Firewise recognition. For more information on that the website is: <http://www.firewise.org/usa-recognition-program.aspx?sso=0>

05/11/2016

Greater Lemon CWPP Meeting Notes

Attendance: Jen, Firewise
Pam Wilson, Firewise
Nell Jordan, Firewise
Ryan Cox, Colorado Forest Service
Judy Bolton, Aspen Trails
Missy Thompson, Aspen Trails
Rob Dawes, La Cherade
John Kent, La Cherade
R Shiflett, Upper Lemon
Heather Erb, Florida Park

A mass mailing will be drafted and sent to all property owners in the Greater Lemon area giving a brief overview of the CWPP for our area.

Aspen Trails Resident Missy Thompson is setting up Greater Lemon CWPP website and Facebook page. CWPP meetings set for second Wednesday of every month.

An approved CWPP provides avenue for grant funding for fire mitigation projects.

Greater Lemon CWPP neighborhoods.

- Aspen Trails
- Florida Park
- Hacienda de la Florida
- La Cherade
- Sierra Verde
- Trew Creek
- Wilderness Lake Mountain Estates

Field Trips –

- Discussions and review of pre-wildfire mitigation and post mitigation areas.
- Review Values at Risk
- 3-4 Stops
- 3-4 hours
- May 22 – Aspen Trails
- June 12 – Mid-Lemon

Field Trip Discussion:

- **May 22, 2016**, 1:00 to 4:00 – Aspen Trails
- Judy Bolton & Missy Thompson
- 3-4 Stops
- Subject Matter Expert (SME) discussion
 - o Upper Pine Fire
 - o Forest Service
 - o Aspen Trails Representative

- o FireWise Representative
- Stop Discussions
 - o Fire Truck Access
 - o Aspen Trails Burn Area
 - o Signage
 - o Fire Mitigation Practices
 - o Other SME Topics
- **June 12, 2016**, 1:00 to 4:00 – Mid-Lemon
- John Kent & Rob Dawes
- 3-4 Stops
- Subject Matter Expert (SME) discussion
 - o John Ey
 - o Upper Pine Fire
 - o Forest Service
 - o La Cherade Representative
 - o Sierra Verde Representative
 - o FireWise Representative
- Stop Discussions
 - o Lemon Dam
 - o Erosion Control
 - o Fire Truck Access
 - o Signage
 - o Fire Mitigation Practices
 - o Other SME Topics

Discussed Wildland-Urban Interface (WUI) boundary. (See attached map) WUI boundary determined by existing CWPP WUI boundaries, Wilderness Area, and terrain around private lands in the Greater Lemon area.

Reviewed WUI Map and Discuss

- Values at Risk in addition to already listed VaRs
 - o Florida Watershed
 - o LPEA above ground power lines
 - o Major culverts
 - o City of Durango water source
 - o Drainage areas to protect water quality
 - o Water sensors

Discussed Values at Risk in the Greater Lemon area.

- Lemon Dam
- Miller Campground
- Florida Day Camp (North end of Lemon Res.)
- Transfer Park
- Florida Campground
- Climbing Area at Transfer Park
- Seasonal Wells
- Hydrant System at Diamond Lodge

- Bridges
 - o (2) below the dam
 - o Kelley Ranch
 - o Florida Campground
- Infrastructure
 - o Communications
 - o Major Culverts
 - o Cattle Guards
- Eagle and Osprey Nesting areas
- Migrating Fowl Nesting areas

Reviewed Burned Area Emergency Rehabilitation (BAER) Team Report.

Action Item – Jen to send out CWPP template/outline for the Team to select CWPP writing areas.

No June meeting. Next meeting second Wednesday in July (July 13). Location to be set.

07/13/2016

Greater Lemon CWPP Meeting Notes

Present: Jen, FireWise
Pam, FireWise
Nell, FireWise
Ryan Cox, CSFS
Missy Thompson, Aspen Trails resident
Judy Bolton, Aspen Trails resident
Don and Gina Abalos, Wilderness Lakes resident
Rob Dawes, La Cherade resident
John Kent, La Cherade resident

Place: Upper Pine Admin Bldg

Follow up on Field trip - request to include some of Bolton property pics plus description Before & After Missionary Ridge Fire included in the CWPP
Upper Pine crew brought a Type 3 truck to Aspen Trails for May field trip to turn around on Upper Ridgecrest

Values at Risk section discussion:

Miller Creek Campground

- no method for communications - no phone land line
 - transient population, so unaware of fire dangers, evacuation process
 - high fuels area along Miller Creek private land... recommendation for shaded fuel break buffer
- Day Use Area at Upper Lemon - similar issues
Transfer Park - similar issues

Consideration of locations for portable water tanks in neighborhoods - build in to write up making a case for these for fire suppression needs.

*Gabe O'Reilly - Sierra Verde Water Company - this is best way to share info for Sierra Verde, contact info is updated (?)

Financial discussion - non of our subdivisions have any method currently in place for funding support for mitigation projects

- Funding fire mitigation efforts in neighborhoods - Tween Lakes started a \$10 annual assessment per lot to build up their fund for grant matching and other uses for mitigation
- Keep track of your volunteer hours, they can be used towards match for some grant funding.
- The current Colorado volunteer rate is \$25.96/hr,
- There is in-kind matching of money neighbors have spent for their mitigation work

We need to get USFS participation in our CWPP process, they are a key stakeholder!

Write ups for field trips including pictures, should send to Greater Lemon gmail address

Concerns:

La Charade subdivision has 2 sets of names for roads in their neighborhood... several residents have encountered problems and huge time delays receiving EMS services because of these discrepancies. This is an issue in many subdivisions within our WUI area that we need to resolve with assistance from OEM, UPFD, GIS, Google maps, others?

Need for reflective address signage throughout our CWPP area

Ryan Cox will work on Vegetation section

UPFD will work on Fire Dept capacity section

Check on subdivision covenants that are restrictive or valuable(?) is burning allowed? other?

CWPP's help to build community, make sure to put that into the plan

*Add to CWPP FB page and website link to "Unimaginable Risk" video

Contact information card with the website, email address, FB page info should be added to all communications from all entities for our project... subdivision newsletters... think about how to make sure we get the word out on this

Calendar link on website for future meetings get set up

next meeting August 10th 5:30 at Pine River Library

Greater Lemon CWPP Meeting
August 10, 2016
Pine River Library, Bayfield CO.

The Greater Lemon CWPP meeting had representation from Wilderness Lakes, La Cherade, Aspen Trails and Lemon, Colorado State Forest Service Office, Southwest Colorado FireWise.

Review of the developed Greater Lemon WUI map and Greater Lemon Vicinity map
Changes requested on the WUI map included:

1. An addition at the bottom of the color key to have SJNF.. make the box and that area a little darker.. it does not show up very dark and folks had a hard time seeing it. Also to move the SJNF label and key color to a space in the legend where it could also fit under it "Columbine district"
The folks just wanted to indicate which fire district is present in this area...

2. To color the Bureau of Reclamation areas different than other public lands. Most specifically the obvious one is Lemon Reservoir.. So to see if there is a way to outline it or a way to indicate that the reservoir is part of the Bureau of Reclamation to show this entity as a federal partner in this WUI area.

3. To place a white box in sort of a spot on the map that tells the total number of acres in the WUI area, total number that is public, and total that is private.

b. Greater Lemon Vicinity Map:

To put an arrow or an actual location designating where City Reservoir is to show its proximity to the CWPP area because it is Durango's municipal water source.

In addition; the next phases of the CWPP writing project are:

1. Total population of homes (#2 on the framework.. Page 3)
2. Each area to complete and bring with them their list of values at risk
3. Each area to document activity that has occurred. Again this is a simple list of things like; estimated 10% of property owners have completed private mitigation efforts on their property. Or the HOA passed policy on shingle roofing.. Etc. Some can be formal, some can be guesstimate/ observation.
4. Vulnerability of Structures: This is where you play "I Spy" and take a good look through your neighborhood for structural vulnerability to fire. This could be examples like: firewood stacked in close proximity to residential dwelling, unscreened decking, shake shingle roofing, no road turnouts, heavy understory .. .any of those things that could make a house more likely to catch on fire.

Next meeting September 14, 2016; 5:30-7:30p.m. location TBD.
Meeting Adjourn 7:30p.m.

Greater Lemon CWPP information:

FACEBOOK: <https://www.facebook.com/GreaterLemonCWPP/?fref=ts>

GOOGLE: <https://sites.google.com/site/greaterlemonreservoircwpp/>

EMAIL CONTACT: GreaterLemonCWPP@gmail.com

Greater Lemon CWPP Meeting
September 14, 2016
Upper Pine District Office,, Bayfield CO.

The Greater Lemon CWPP meeting had representation from La Charade, Aspen Trails and Lemon, Colorado State Forest Service Office, Southwest Colorado FireWise.

Review of the developed Greater Lemon WUI map and Greater Lemon Vicinity maps to move toward a final cleanup and final edits to the two maps.

Additional edits to finalize maps were:

Wildland Urban Interface map

- Remove Forest Groves, Enchanted Forest and Vallecito WUI boundaries.. Also remove Cherry Valley and Grey Hackle off of maps.
- Also drop Coolwater

On both maps: Please extend out to the trail head or its natural end Road 596 to the Wilderness boundary/ trail head.. Whichever comes first.

Greater Lemon Reservoir area map:

- A. Color reservoir to its fullest extend a dark blue so it can be seen like the City reservoir can be

Actions:

- A. Agreed that the October meeting will be the meeting to attempt to come up with a list of recommendations for the Greater Lemon CWPP.
- B. That in the writeup somewhere in the CWPP should be a recommendation or recognition of need for a Fire Station 9 for the Upper Pine Fire Protection District to aid in protecting the CWPP identified area.
- C. Add language in the CWPP boundary description to say that it is attempting to strengthen and follow other pre-established WUI boundaries
- D. On the planning process description: add a sentence in the draft about City Reservoir as a recognized value at risk.
- E. Judy and John are to seek John Iye's input on this plan before next meeting

Next meeting: October 12,, 2016; 5:30-7:30p.m. location Upper Pine Protection District Administration building.. Upper classroom,
Meeting Adjourn 7:30p.m.

Greater Lemon CWPP information:

FACEBOOK: <https://www.facebook.com/GreaterLemonCWPP/?fref=ts>

GOOGLE: <https://sites.google.com/site/greaterlemonreservoircwpp/>

EMAIL CONTACT: GreaterLemonCWPP@gmail.com

10/12/2016

Greater Lemon CWPP Meeting Notes

Participants: Jen Stark, FireWise
Missy Thompson, Aspen Trails resident
Judy Bolton, Aspen Trails resident
Paul Valdez, Assistant Fire Chief, UPRFD
Bill Hesford
Don Abalos, Wilderness Lakes resident
Rob Dawes, La Cherade resident
John Kent, La Cherade resident

Place: Upper Pine Admin Bldg

Review of Maps:

- La Charade correct spelling = La Cherade
- "2002 Vallecito Burn" should be in a lighter orange, actually date on this is wrong this is different fire than Missionary Ridge, make correction after verifying time frame
- FS597 to Endlich Mesa make more pronounced

Recommendations Sections :

1. Internally short term (now - 2 yrs time frame) objectives to improve communications, public outreach & public education

We are doing this work in the best interest of the community, if you do not agree...speak up!

2. Activities (2-3 yr time frame) - move firewood away from homes, screen porches day, brush removal day, EMS/Fire Signage day

3. External long term (3-5-10 yrs out) - projects with Fire Protection District, U.S. Forest Service, CSFS, Secondary Egress, Hammerheads,

4. Longest term (10-20 yrs out)

5. Policy Issues

Actions brainstorming session by neighborhood

create bullet actions

stakeholders involved

timeline for completion

Aspen Trails group:

Short Term Activities:

Continued roadwork -ATMD, Firewise Ambassador, Neighbors, CSFS,

- improved ROW 1-3 yrs,

- width improved to minimum 17' all roads -20 yr goal

Education 1-3 yrs ATMD, Firewise Ambassadors, CWPP work group, Neighbors, UPFD, CSFS

- equipment training for mitigation

- mitigation work
- evacuation plan
- UPFD fire extinguisher training
- community work days

Communications 1-3 yrs ATMD, Firewise Ambassadors, Neighbors, UPFD, CSFS

- update & expand website
- bulletin board, add timely, helpful info
- improved signage for addresses
- Fire Danger sign for UPFD station #3
- increase # of Firewise Ambassadors

Long Term Activities/Plans:

- Partnership for water supply for Year Round use and/or Fire Suppression
- 10-20 yrs
- Aspen Trails Water Co or??
- Florida Water Conservancy District
- Div of Water Resources
- UPFD
- Water Storage tank for emergencies in upper part of Aspen Trails -20 yrs - ATMD, UPFD, DWR
- Partnership with USFS and Los Ranchitos subdivision for defensible space buffer zone between Aspen Trails and Los Ranchitos, and along USFS border for both subdivisions
- 5-10 yrs - Los Ranchitos HOA, ATMD, Firewise, CSFS, USFS
- Biomass Burner for slash disposal - 20 yrs - all stakeholders

**Stakeholders for these actions/goals - ATMD, Neighbors, Firewise, UPFD, Los Ranchitos, ATWC, CSFS, USFS,

It's important to document little events, group events and big events... every success should be acknowledged , no matter how small.

Policy Component should include Recommendations, not Rules for this CWPP

- where to post address signs so there is consistency for EMS
- "dumb proof" signage
- egress routes
- home assessments by Upper Pine

Above Dam: some notes from discussion after brainstorming...

- Need for improved communications mechanism
- Day Use Area managed by USFS
- Miller Creek Campground managed by Rocky Mountain Recreation
- Durango Dispatch - communications for maps & directions for this area need help

UPFD notes:

- Dry Hydrant for Lemon Res with 6" pipe from Reservoir to Road for refilling trucks, 2 needed for the area, 20' max updraft (?)
- 30,000 gallons of water storage in a subdivision can lower rates for homeowners, 10,000 gallon storage tanks cost about \$9000
- Identify water sources

Start documenting what we have done so far, activities by individuals and groups.

Close out the narrative for this CWPP

Additional Stakeholders to make sure to list:

- City of Durango
- Div of Water Resources DWR
- Search & Rescue

Forest Service can do 99 year land lease for fire stations... look at day use area?

USFS - Tipton - Columbine District... contact person to begin this discussion

Next meeting scheduled for Nov 9th

* Cancelled due to weather

02/15/2017

Greater Lemon Community Wildfire Protection Plan (CWPP) Meeting Notes

In attendance: Bruce Evans, Upper Pine FD
Jen Stark, FireWise
Ryan Cox, CSFS
Judy Bolton, Aspen resident
Don McKinzie, Wilderness Lake Estates resident
J Shiflett, Lemon resident
John Kent, La Cherade resident
Rob Dawes, La Cherade resident

A Demonstration Day is being planned for Saturday, May 6, 2017. Think of tools or equipment that might be neat to demonstrate and/or allow people to try. The event will be held at Judy Bolton's place.

CWPP suggestions:

- Use shared language

- Include recommendation for Station 9

 - Insurance services for the area are ISO 10 – the worst rating

 - If there was a FD, the rating would be a ISO 4

 - The FD would like to acquire property for a resident station

 - Include a cell booster and a siren for emergency

 - People migrating away from landlines and toward cellular phones

 - Emergency information – if cannot ping, presents issues for notifications

 - Safety purposes (lake, climbing, hunting)

 - DOLA gives 1-3 acres for FD; 3 acres would be needed for apartment living / septic

 - Station needed for evacuation of those who cannot get out by themselves

 - Seasonal persons have trouble getting out, too

- Street names are different; recommendation to get with GIS to fix

- Get with Chris Tipton, Public Lands Center or GIS for sample lightning map in June and July

- Wording: steeper terrain necessitates specialty crews

 - Tops of ridge lines are at risk because lightning storms

 - Retardant can't be used because lightning storms are electric

 - Because of contour, risk is increased

 - Talk about subdivisions and evacuation routes, roads and switchbacks

 - Heavy vegetation

 - Steeper drainages get sterilized with hot fire and results in sediment in the river

 - devastating and expensive

 - Neighborhoods and individual property owners have done X mitigation

 - Watershed for drinking water for Durango and Edgemont

Cell boosters –

- Idea to place on the dam or the maintenance shed of the dam

- Idea to place on the fire station at Aspen Trails

- It is believed that the Grassy Tower points toward Lemon

- Lisa Baroque (Vallecito) has a contact for the VP of Verizon in Dallas

- Verizon will put a booster on your house

Grants:

The Stevens Grant can provide assistance from FD for mitigation.
FEMA Grants can do road improvements.

To Do List:

Judy

- organization of the Demonstration Day

Robert

- population estimates; structure counts - county
- contact Butch Knowlton about drones and aerial pictures
- pictures of dumpster and equipment used for mitigation on property

Ryan

- watershed map – CO-WRAP

All

- reminder to track “in kind” hours and mileage

03/08/2017

Greater Lemon Community Wildfire Protection Plan (CWPP) Meeting Notes

In attendance:

Pam Wilson, FireWise
Jen Stark, FireWise
Charlie Landsman, FireWise
Paul Valdez, Upper Pine FD
Ryan Cox, CSFS
Judy Bolton, Aspen resident
J Shiflett, Lemon resident
R Shiflett, Lemon resident
John Kent, La Cherade resident

A Demonstration Day is being planned in May and will be held at Judy Bolton's house. This day is designed to engage home owners and provide demonstrations on tools and equipment used and necessary for living in the mountains.

John would like to participate and bring some of his tools to the Demonstration Day.

Ryan generated and provided a map of the different watersheds in the WUI boundary.

Robert and Jacque went by the LPC Emergency Management Office about the possibility of using the county's drone to get aerial photos of public lands in the WUI boundary. Butch Knowlton gave Tom McNamara's name as the contact for the drone project. Robert emailed Tom to set up an appointment to bring the watershed map and talk about aerial photos.

Important to include in the CWPP:

- paragraphs about connect to Durango (drinking water) and Florida Mesa (irrigation).
- paragraph about wash out and ash content in the aftermath of a fire; debris in water caused discussions about a "centerfuge" to separate and clean the water for the City of Durango. Fire mitigation and prevention would provide a cost avoidance in future emergencies by not having to engage the use of a centerfuge.
- paragraphs on Station 9 proposal – goal of having a manned fire station; desire by residents and fire department to build would lower ISO rating, provide fire protection and emergency responses.
- recommendation of bulletin boards at major neighborhood junctions
- winter conditions – avalanche, emergency access, elderly / disabled population
- values at risk – no support to other fire stations in the area
- recommendations:
 - o future – ensure county GIS and neighborhood addressing and signage (including dead end roads) is accurate and complete; possible street names adjusted to correct on the county website
 - o cell coverage would help the area – to further recommend a cell booster be included in the development plan of proposed Station 9

- encourage residents to have contact through registering emergency contact information with the Fire Department through the new Code Red program (formerly Reverse 911)
- highlight the “contiguous areas” to the CWPP
- future – continue outreach efforts to property owners

To Do List:

Judy

- organization of the Demonstration Day
- send write up to Robert and Jacque for consolidation

R and J

- continue discussions with Butch Knowlton or Tom McNamara about drones and aerial pictures
- look at “values at risk” on big map from Jen next meeting
- draft of CWPP to Pam by 03/24/2017 (Friday)
- fire station recommendation write up

Pam

- talk to Hon about the Fire History portion of the CWPP.
- WUI boundary discussion – good to include Sweetwater Springs?
- Lightning map

All

- reminder to track “in kind” hours and mileage
- get a list together of the “Map Packet” we want to include in the CWPP
- consider a map in CWPP labeling future treatment areas
- get a list together of the Appendices we want to add as links in the CWPP

04/12/2017

Greater Lemon Community Wildfire Protection Plan (CWPP) Meeting Notes

In attendance:

Pam Wilson, FireWise
Jen Stark, FireWise
Charlie Landsman, FireWise
Paul Valdez, Upper Pine FD
Judy Bolton, Aspen resident
Missy Thompson, Aspen resident
Don McKinzie, Wilderness Lake resident
Rob Dawes, La Cherade resident
John Kent, La Cherade resident
J Shiflett, Lemon resident
R Shiflett, Lemon resident

The GLRCWPP group meeting hosted a guest speaker, John Barborinas. John is a Fire Behaviorist with many years of experience in the Durango area as well as in other areas of the country. His experience in the Durango area includes performing fire behavior analysis during the Missionary Ridge Fire. John researched the fire history in the GLRCWPP WUI area, conducted a fire behavior analysis, and presented his findings during the meeting. Several behavior maps were provided - Flame Length Map, Rate of Speed Map, Crown Fire Map, Short-Term Fire Behavior Map. These resources gave a scientific postulation of fire risk and fire behavior given specific conditions (15-25 mph winds, low humidity, specific ignition points). John discussed some of the “best practices” suggested by Jack Cohen, Research Physical Scientist for the Missoula Fire Sciences Laboratory, which encourage property owners to reduce the risk of fire around structures by reducing the ignitability of the area surrounding the structures and by using less ignitable materials when building. Access (ingress and egress) concerns for the GLRCWPP area were discussed and shown on the maps.

A Demonstration Day is being planned for May 6 in the Aspen Trails neighborhood, in and around Judy Bolton’s house. This day is designed to engage home owners and provide demonstrations on tools and equipment necessary for doing mitigation on mountain properties. Judy handed out laminated flyers to post in neighborhoods for advertisement of the event. Judy has coordinated with local businesses and SMEs to offer a wide range of educational and “hands on” activities.

Pam mentioned having grant money available which expires in early November 2017. Pam has money available for chipper use, too. Pam mentioned an offer from one of her colleagues to have manpower volunteers assist during the Demonstration Day. Ideas about slash and/or chipper activities during the Demonstration Day were discussed.

Joint group review of the written GLRCWPP began. Changes and additions to the body of the Plan were provided by team members. A line by line review of the Recommendations chart in the Plan was conducted; suggestions were provided. These modifications will be incorporated into the Plan and provided to Pam for final review by April 14, 2017. 150+ pictures have been provided for possible inclusion into the Plan by GLRCWPP area property owners. The pictures were briefly reviewed. Picture suggestions included a reminder to consider the impact of pictures given the small size of each in the Plan.

To Do List:

Jen

- send the WUI map to John Barborinas
- connect John Barborinas and Jerome (GIS) regarding a structure map
- coordinate with John Barborinas on map showing an ignition start at Miller Campground
- coordinate with Pam / Jerome for large map able to be referenced during the Demonstration Day on May 6
- coordinate next meeting location with Paul Valdez
- send an email to the CWPP Partners giving a "heads up" to expect the GLRCWPP by May 29, 2017 (Memorial Day)

Judy

- organization of the Demonstration Day on May 6
- add to Recommendations chart:
 - o siren at the proposed Fire Station #9
 - o add "dry" to the hydrant recommendation
 - o look at Monitoring section of Plan and possibly add to chart
 - o add periodic review of CWPP (5 year?) to the chart
- complete Recommendations section for final review by next meeting, May 17

R and J

- incorporate changes into the written GLRCWPP
- send updated Plan to Pam by April 14, 2017
- update picture list and send to Jen for distribution to CWPP participants
- send fire pictures to Paul Valdez
- when review of Plan is completed by Pam, add pictures for consideration
- after May 17 meeting, map Recommendations

Pam

- coordinate with Jen / Jerome for large map able to be referenced during the Demonstration Day on May 6
- review GLRCWPP before May 17 meeting

Next Meeting:

- May 17, 2017
- Expectations for Meeting
 - o final review of Recommendations
 - o decision about which Recommendations can / should be "mapped", could include
 - corridors in the area that need mitigation
 - dead end sign locations
 - others ?
 - o final group review of GLRCWPP

Target Dates:

- GLRCWPP to CWPP Partners by May 29, 2017 (Memorial Day)
- CWPP Partner responses by June 14, 2017
- GLRCWPP forwarded to CWPP Partners for signatures by June 28, 2017

05/17/2017

Greater Lemon Community Wildfire Protection Plan (CWPP) Meeting Notes

In attendance:

Pam Wilson, FireWise
Jen Stark, FireWise
Charlie Landsman, FireWise
Bruce Evans, Upper Pine FD
Paul Valdez, Upper Pine FD
Ryan Cox, CSFS
Judy Bolton, Aspen resident
John Kent, La Cherade resident
Jim Benoit, La Cherade resident
J Shiflett, Lemon resident
R Shiflett, Lemon resident

The group discussed and acknowledged the success of the Demonstration Day held at Judy Bolton's house on May 6, 2017. The day was filled with educational workshops, a visit by a fire helicopter pilot in his helicopter, tasty food, and community interaction. The turn-out was great! Visitors were even welcomed from several neighborhoods outside of the GLRCWPP. Thanks to all who planned, assisted, and participated! A big THANKS to Judy and Scooter Bolton for coordinating and hosting this wonderful event!

A line by line review of the Plan's Recommendations Chart was conducted to determine "map-able" Recommendations. It was decided that Recommendations Maps will be incorporated as one general map for the GLRCWPP Recommendations as well as individual maps for neighborhood Recommendations.

The joint group review of the GLRCWPP was completed. Corrections and suggestions from property owners have been incorporated into the most recent version. The SMEs are completing their review, and the group anticipates that the Plan will be approved and signed in June 2017.

To Do List:

R and J

- coordinate "map-able" Recommendations with Jerome, GIS, before May 22, 2017
- obtain electronic versions of maps to be included in the GLRCWPP

Judy

- updates to Recommendations Chart by May 22, 2017

Pam

- complete review of GLRCWPP by May 22, 2017

Jen

- coordinate electronic distribution of GLRCWPP to Partners
- after Partners review of GLRCWPP, consolidate signatures page and send to Shifletts for merging into final document

Target Dates:

- GLRCWPP to CWPP Partners by May 29, 2017 (Memorial Day)
- CWPP Partner responses by June 14, 2017

Greetings Fellow Property Owner!

Residents of the Greater Lemon Area recently met and decided to embark on developing a joint Community Wildfire Protection Plan (CWPP). A CWPP is a long-term plan to help educate property owners on wildfire risks and develop actions residents can undertake to become better prepared to live with and potentially mitigate the risk of wildfire. The CWPP will continue to be developed with input from key stakeholders like Upper Pine River Fire, Colorado State Forest Service, U.S. Forest Service, and the La Plata County Office of Emergency Management.

According to public record, it is believed your property lies within the boundaries of the area of land currently included in the Greater Lemon Area CWPP. Please take a moment to consider the inherent wildfire risks of your Greater Lemon Area property investment. Would you like more information about what to look for and how to mitigate some of those risks? Being a part of the development of a CWPP for the Greater Lemon Area is a great avenue!

A CWPP is simply written documentation affirming that property owners are jointly concerned about risk and are open to consider suggestions for better fire preparedness. The CWPP will outline short-term and long-term goals for the area and provide avenues to make it easier to secure funding to accomplish agreed-upon projects. If you are interested in perusing completed CWPPs, the Upper Pine River Fire Protection District has linked CWPPs from other Durango and Bayfield-area communities on their website, <http://upperpinefpd.org/cwpp>.

We are interested in your ideas and your participation! If you would like to contribute – in big or small ways - to the efforts of developing a CWPP for the Greater Lemon Area, we want to hear from you! Your name will go on a list of interested property owners who will receive updates with regard to the program, basic information, projects, goals, and progress in achieving them.

While we are interested in having as many active participants as possible, we also recognize property owners will be able to participate at different levels. Your individual desired level of participation will be appreciated and respected:

- **Active:** attends meetings, helps with some information gathering or writing for the CWPP
- **Engaged:** intermittent participation, interested in taking local field trips to learn about wildfires, mitigation, land erosion and participate in other “on the ground” learning opportunities
- **Updates:** receives information and progress updates

We are developing a Greater Lemon CWPP website and Facebook page – places for property owners to access CWPP information and indicate their desired level of participation. We will also be posting a calendar of educational events and activities in which property owners may participate to reduce vulnerability to wildfire.

Visit us at: <https://sites.google.com/site/greaterlemonreservoircwpp/>

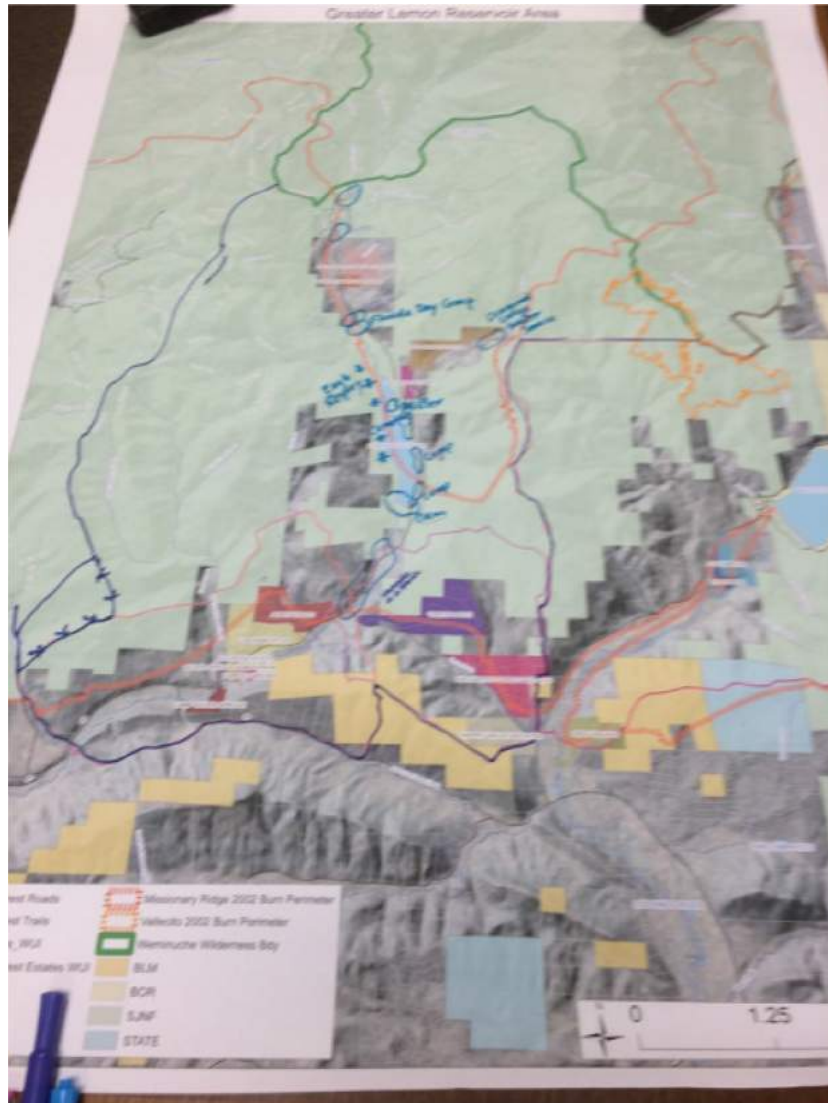
or <https://www.facebook.com/GreaterLemonCWPP/?fref=ts>

While the websites are under construction, please give us a shout at GreaterLemonCWPP@gmail.com for more information and to let us know your desired level of participation. We look forward to hearing from you!

(It is important to move forward addressing wildfire concerns in the Greater Lemon Area. Please understand that since the development of a CWPP does not translate into requirements for the property owner, silence on related matters will be considered implied consent.)

Greater Lemon Wildland-Urban Interface (WUI) (Rough outline in purple West, South, East and green to the North)

A better map will be provided on the website.



Definition: A **Wildland-Urban Interface (WUI)** refers to the zone of transition between unoccupied land and human development. These lands and communities adjacent to and surrounded by wildlands are at risk of wildfires. Management of these transition zones reduces the risk presented by wildfire.

Fire Issues Field trip #1 Lemon Dam & Aspen Trails May 22, 2016

Lemon Reservoir/Dam - car pool start point

- Missionary Ridge Fire
- Erosion
- Forest restoration
- Regeneration of Aspen

While driving toward Aspen Trails Subdivision things to look for & consider

*possible pull out just below Whispering Pines for observation

- Trees overhanging road
- Density of tree stands
- Powerline location with respect to road and trees
- Water Drainage - debris flow, flooding road, falling rock

Entrance to Aspen Trails Subdivision, stop at mailboxes

Look up the drainage on both sides of Trew Creek Rd

- Forest & brush density beyond the road right of way
- Housing density
- Road width
- Top of drainage burned during Missionary Ridge Fire
- Values at risk in this area?
- Discuss Missionary Ridge Fire in Aspen Trails

Things to observe while driving in neighborhood

- Road accessibility, width, slope, drainage, signage
- Address signage on homes
- Vegetation
- “what if scenario” fire trucks coming into subdivision while homeowners are evacuating

Aspen Drive stops

*Observe vegetation change to see Missionary Ridge Fire affected areas along this road, 2 homes and several outbuildings were lost on Aspen Drive

235 Aspen Drive

- Mitigation work in progress, stop for discussion

771 Aspen Drive

- Show photos of location when property purchased in 1993, mitigation work and fire pics

Fire Issues Field trip #1 Lemon Dam & Aspen Trails May 22, 2016

- Discuss Missionary Ridge Fire, show burn marks backside of trees where fire dropped to the ground, # trees standing right after fire vs what actually survived

- Discuss Defensible space

Optional additional stops to view

Top of Ridgecrest Drive

- minimal hammerhead installed post fire & tree density

Turkey Trail

- dense forest, mitigated property, construction issues, drainage

Sierra Circle

- back section of road "Jeep road" 4x4 high lift mandatory

- "what if scenario" fire spreading from Los Ranchitos Subdivision

Return to Lemon Dam

Wildfire Mitigation Fair

Community Preparedness Day

If you live in the forest...
this event is for you!



Wildfire Mitigation '101'

Saturday, May 6, 2017 9am - 4pm

Judy's Tree Farm, 771 Aspen Dr, Aspen Trails
(13.5 miles NE of Durango off of CR 240)

Carpooling is highly encouraged! Please wear long pants and closed toed shoes. Bring work gloves, eye & ear protection, a hat, and a water bottle. A light lunch will be provided (donations accepted). For details (schedule, waivers, check in location) contact Judy at 970-247-0893.

RSVP Requested: judytreefarm@gmail.com

Hands On Activities:

- Fuels reduction planning
- Identifying tree health - dead, damaged, diseased, or decent?
- What do I do with slash - burning and other options
- Chainsaw demonstrations
- Practice with powered and non-powered equipment
- Home Ignition Zone hazards
- Evacuation planning



Tanner Hutt - Colorado Division of Fire Prevention & Control

Wildland Fire Crew - Upper Pine River Fire Protection District

Charlie Landsman - FireWise of Southwest Colorado

Ryan Cox & Kent Grant - Colorado State Forest Service

Jon Westrup - Fire Smart, LLC Durango

Andrew Mattison - Intermountain STIHL

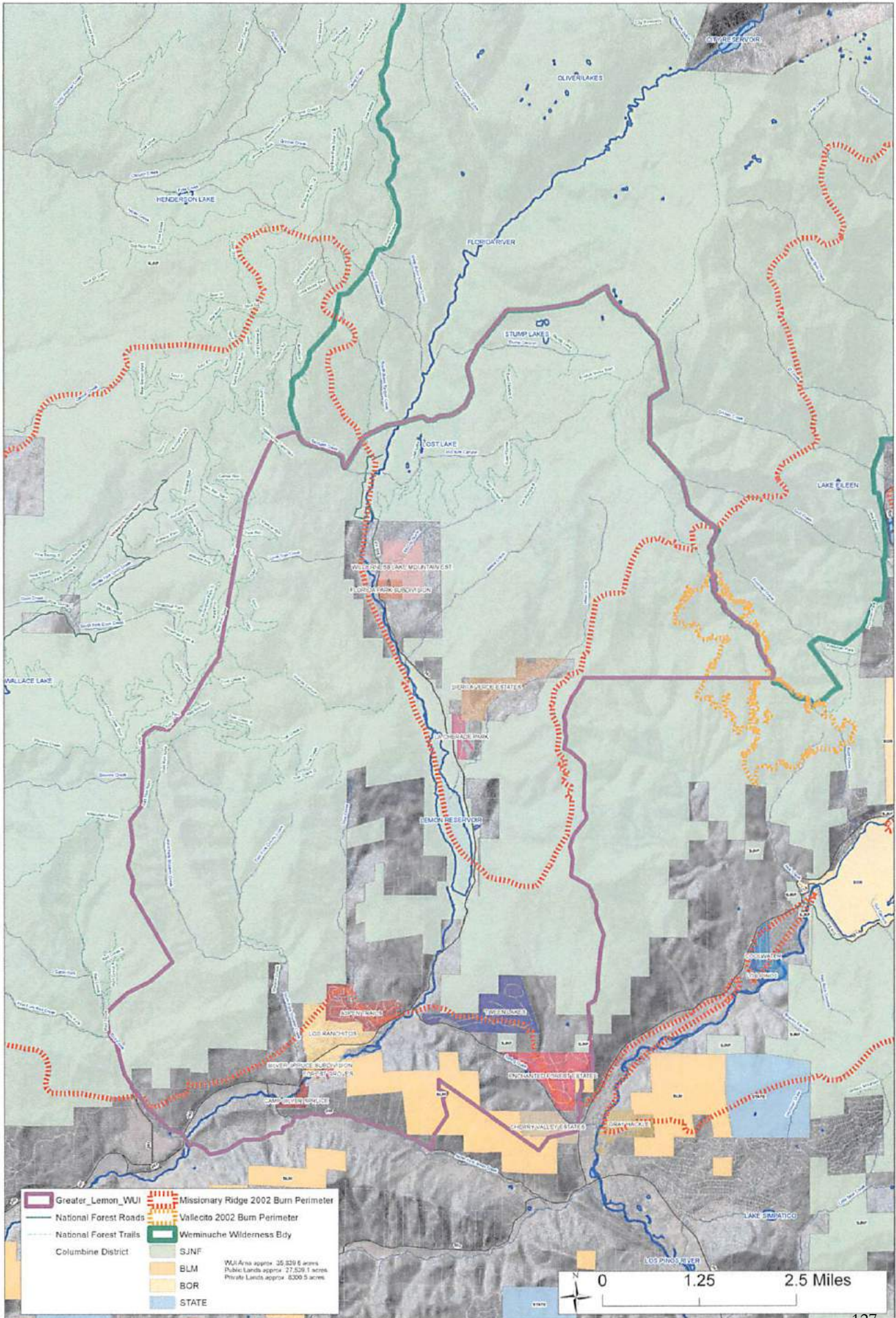




MAPS

	<i>page</i>
Greater Lemon Reservoir (GLR) Area	127
CWPP and WUI Boundaries	128
Analysis of Lands	129
Water Sources	130
Creeks	131
Watersheds	132
Vegetation	133
Roads	
Greater Lemon Reservoir (GLR) Area	134
Aspen Trails and Trew Creek Estates	135
La Cherade Park and Sierra Verde	136
Florida Park and Wilderness Lake Mountain Estates	137
Bridges	
South of Lemon Dam	138
North of Lemon Dam	139
Subdivisions	140
Topographic Map	141
Wildfire Risk Assessment	142
Missionary Ridge Fire	143
Recommendations Maps	
General for GLRCWPP Area	144
Aspen Trails	145
Trew Creek Estates	146
Haciendas de la Florida	147
La Cherade Park	148
Sierra Verde Estates	149
Florida Park	150
Wilderness Lake Mountain Estates	151

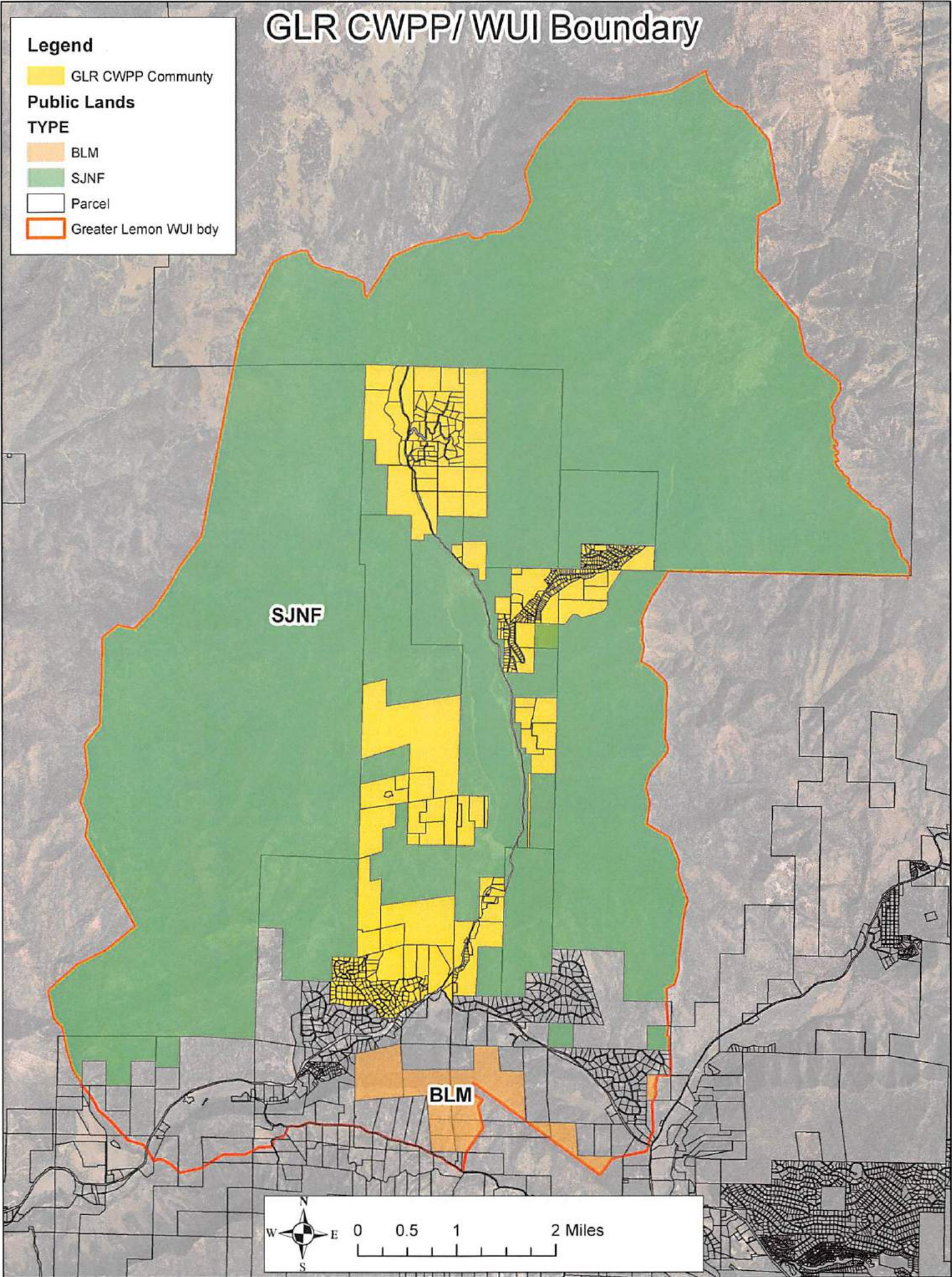
Greater Lemon Reservoir Area



GLR CWPP/ WUI Boundary

Legend

- GLR CWPP Community
- Public Lands**
- TYPE**
- BLM
- SJNF
- Parcel
- Greater Lemon WUI bdy

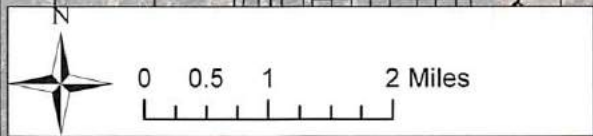


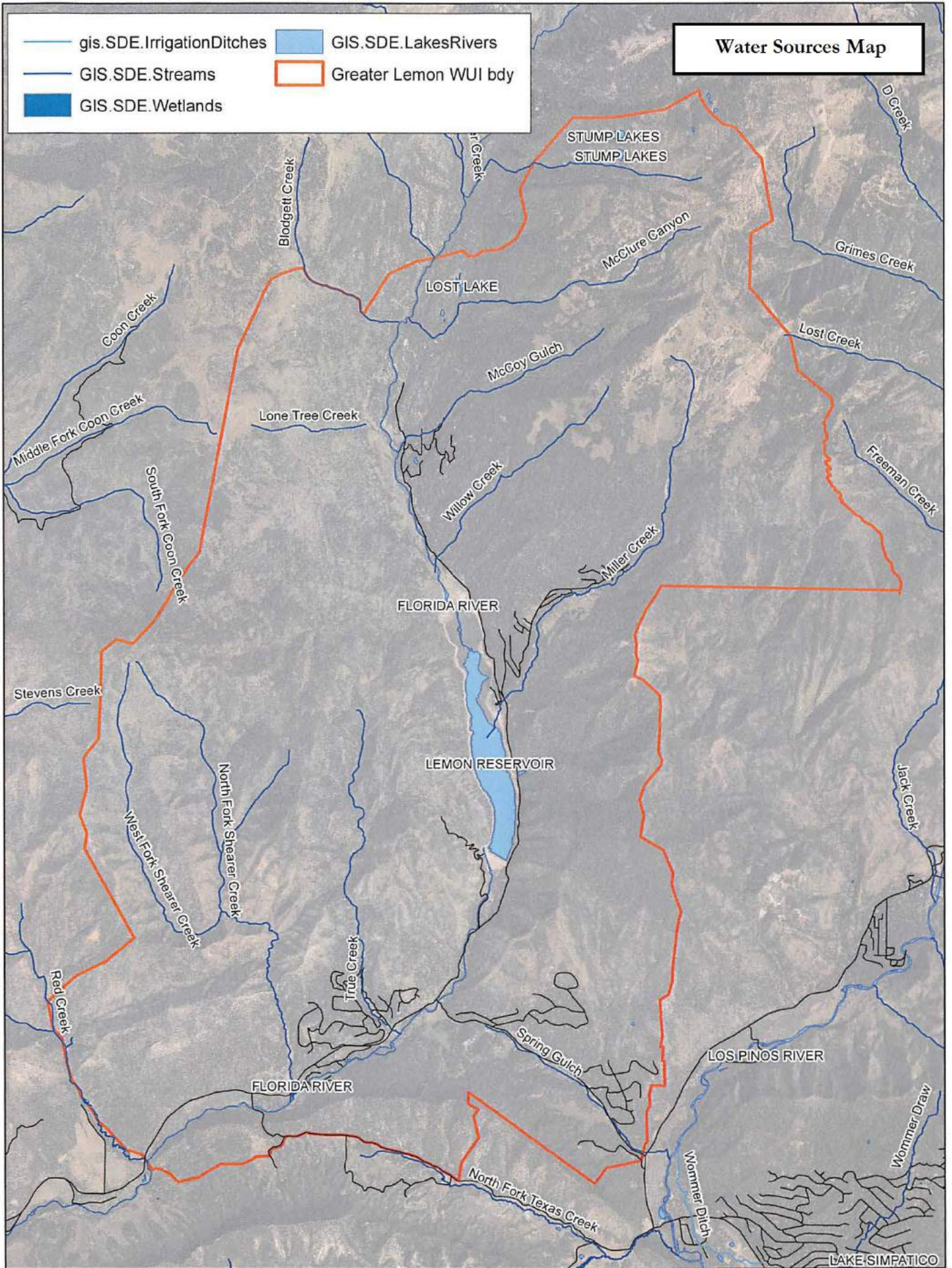
Greater Lemon WUI Analysis

WUI Area: 56 Sq Mi
BLM: 1.01 Sq Mi
SJNF: 42.02 Sq Mi
Private Parcels: 12.979 Sq Mi

SJNF

BLM

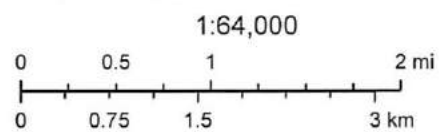




Creeks in the Greater Lemon Reservoir CWPP



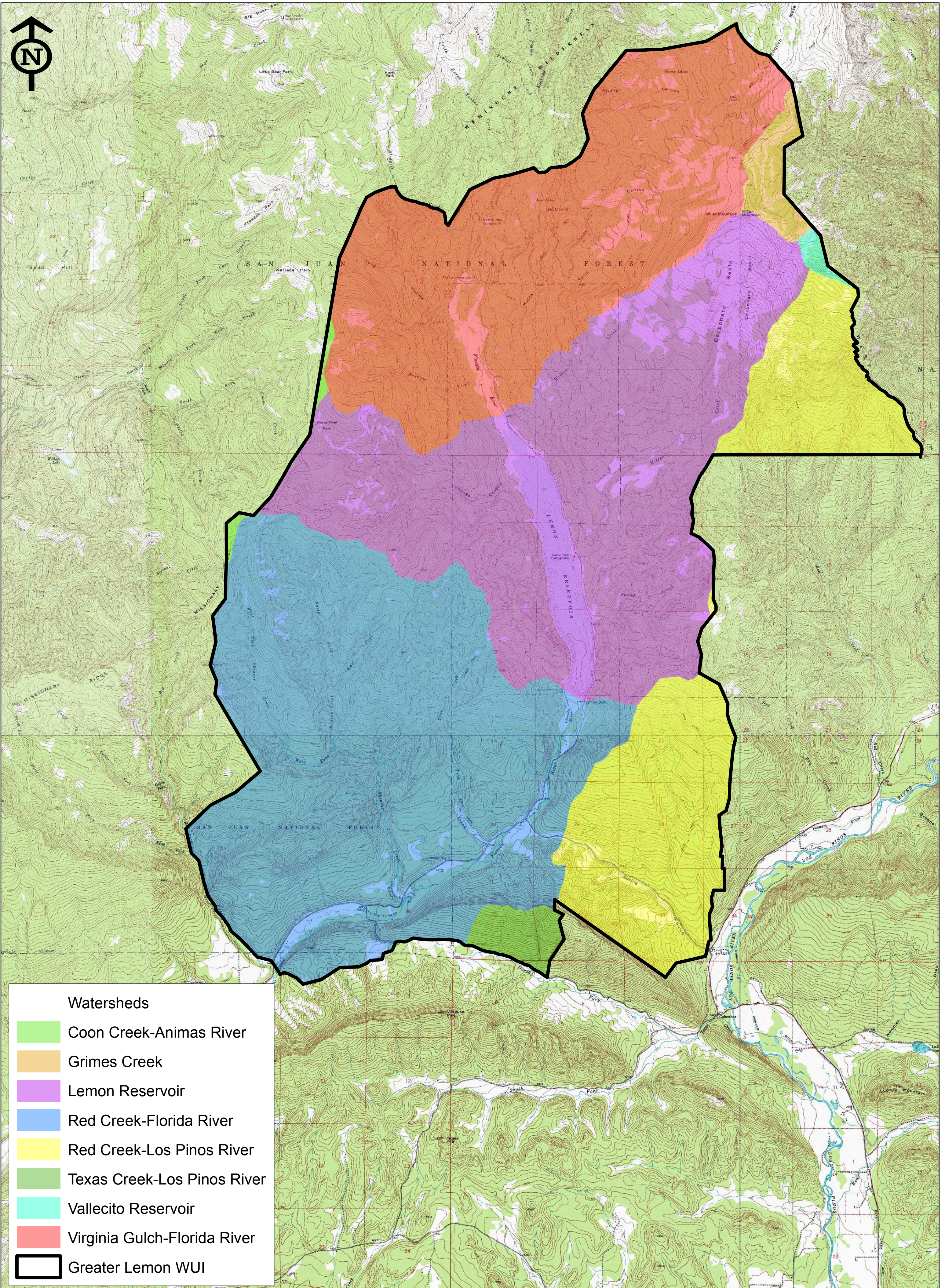
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Greater Lemon WUI - Watersheds

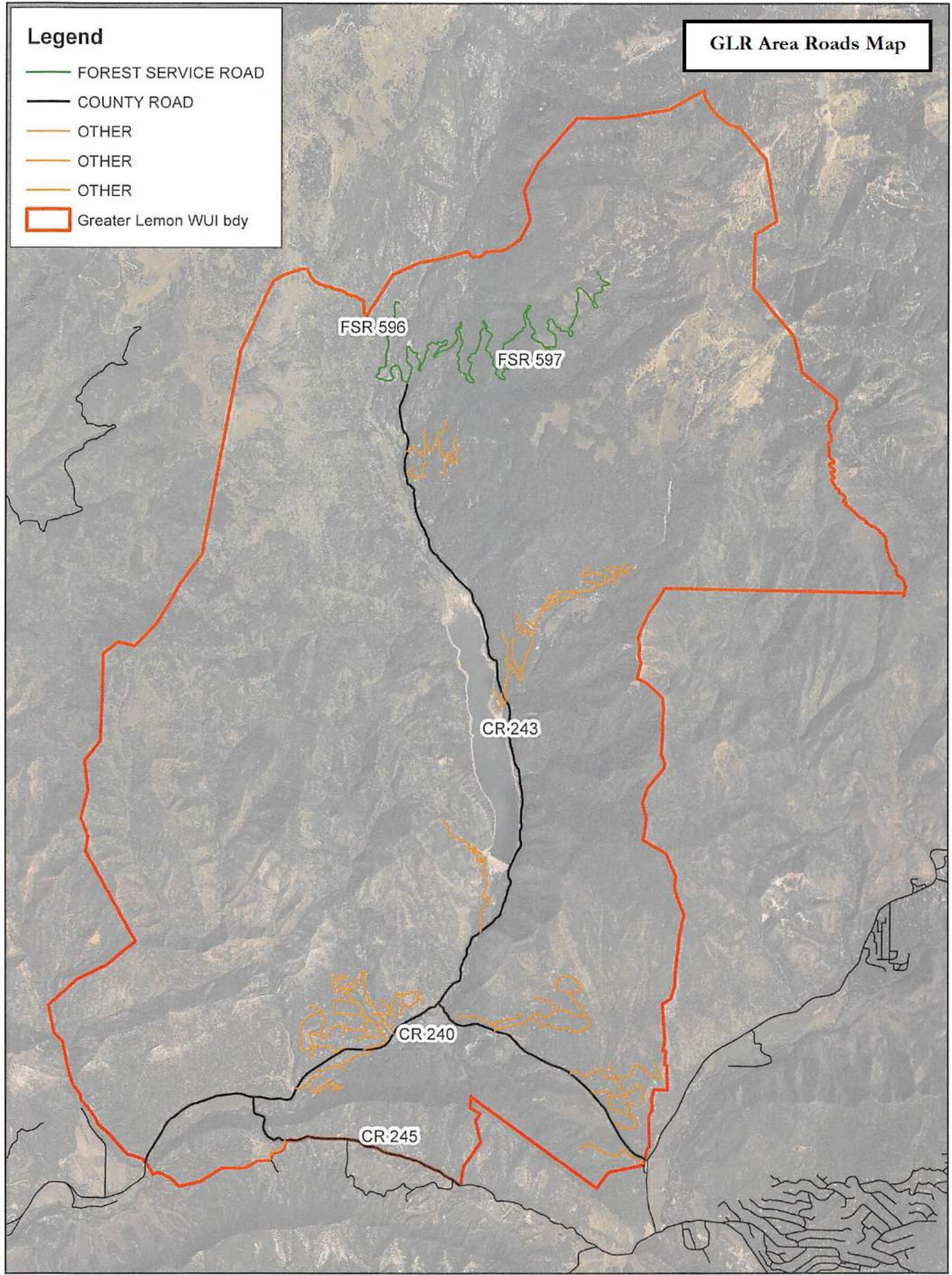


- Watersheds**
- Coon Creek-Animas River
 - Grimes Creek
 - Lemon Reservoir
 - Red Creek-Florida River
 - Red Creek-Los Pinos River
 - Texas Creek-Los Pinos River
 - Vallecito Reservoir
 - Virginia Gulch-Florida River
 - Greater Lemon WUI

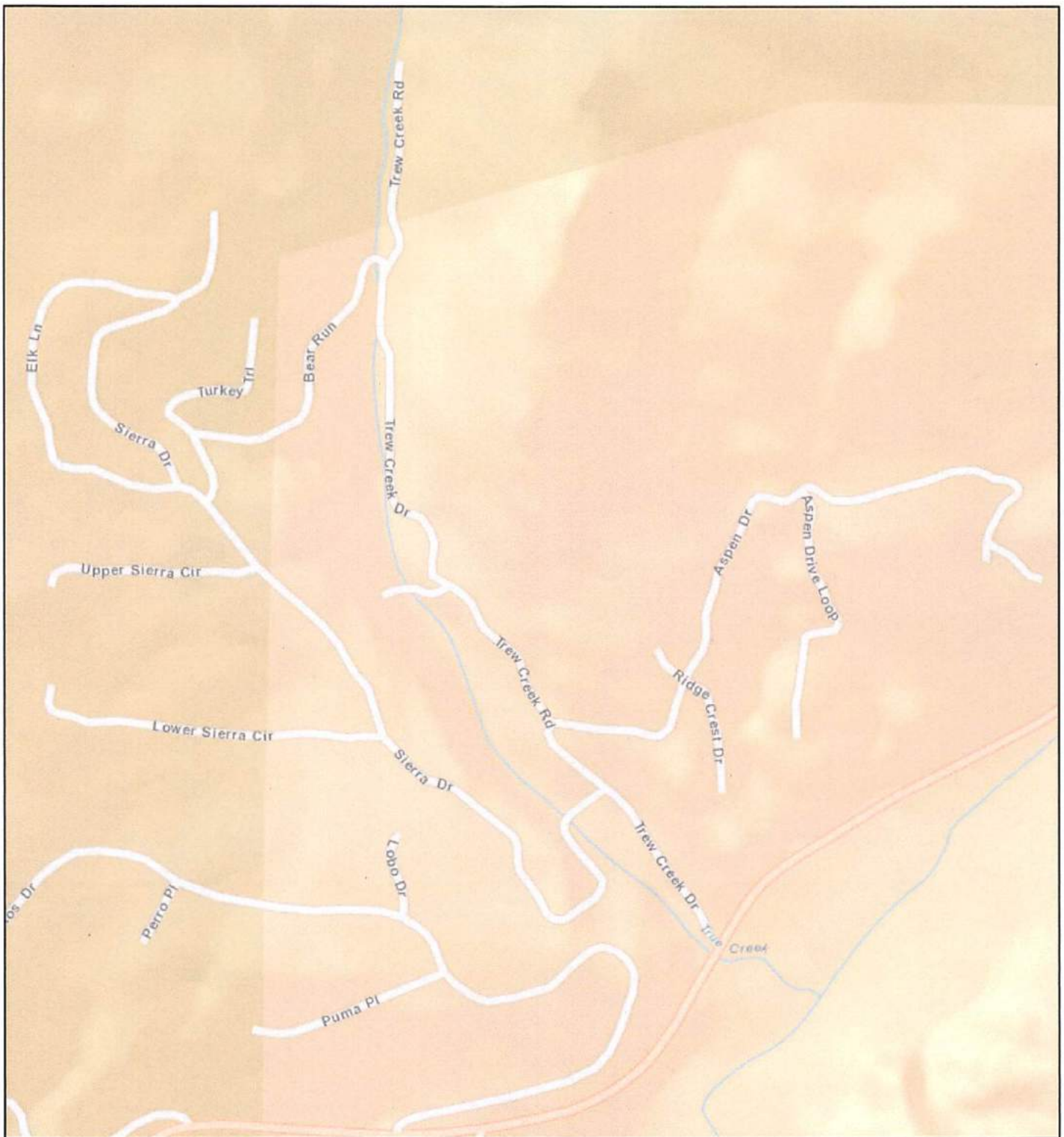
Map Created using CO-WRAP data by:
 Colorado State Forest Service
 Durango District
 March 2017



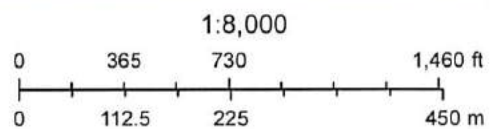




Aspen Trails and Trew Creek Estates Roads

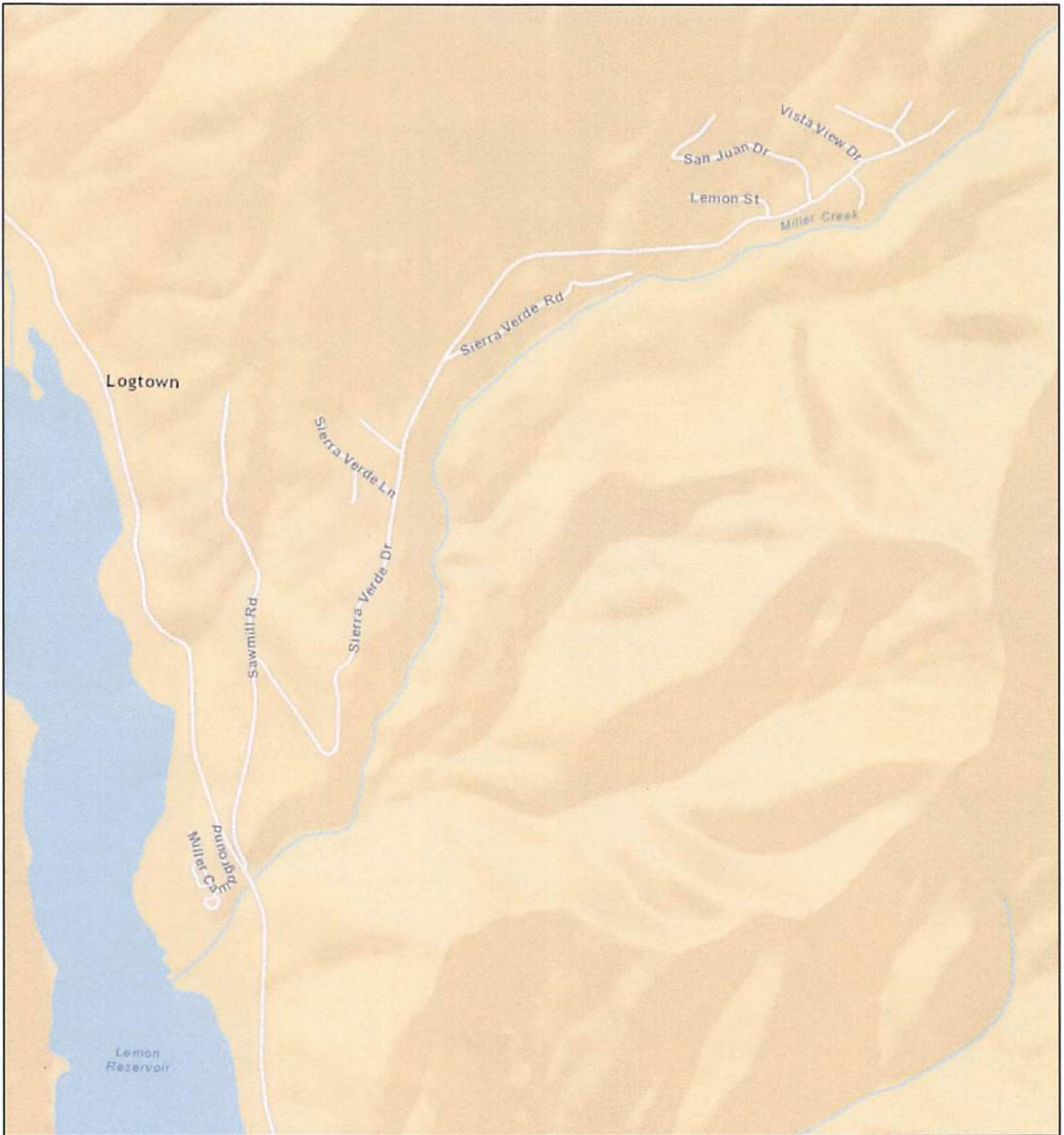


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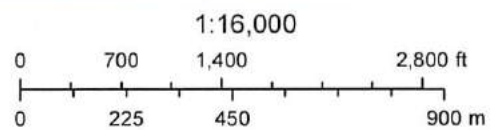


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La Cherade and Sierra Verde Roads

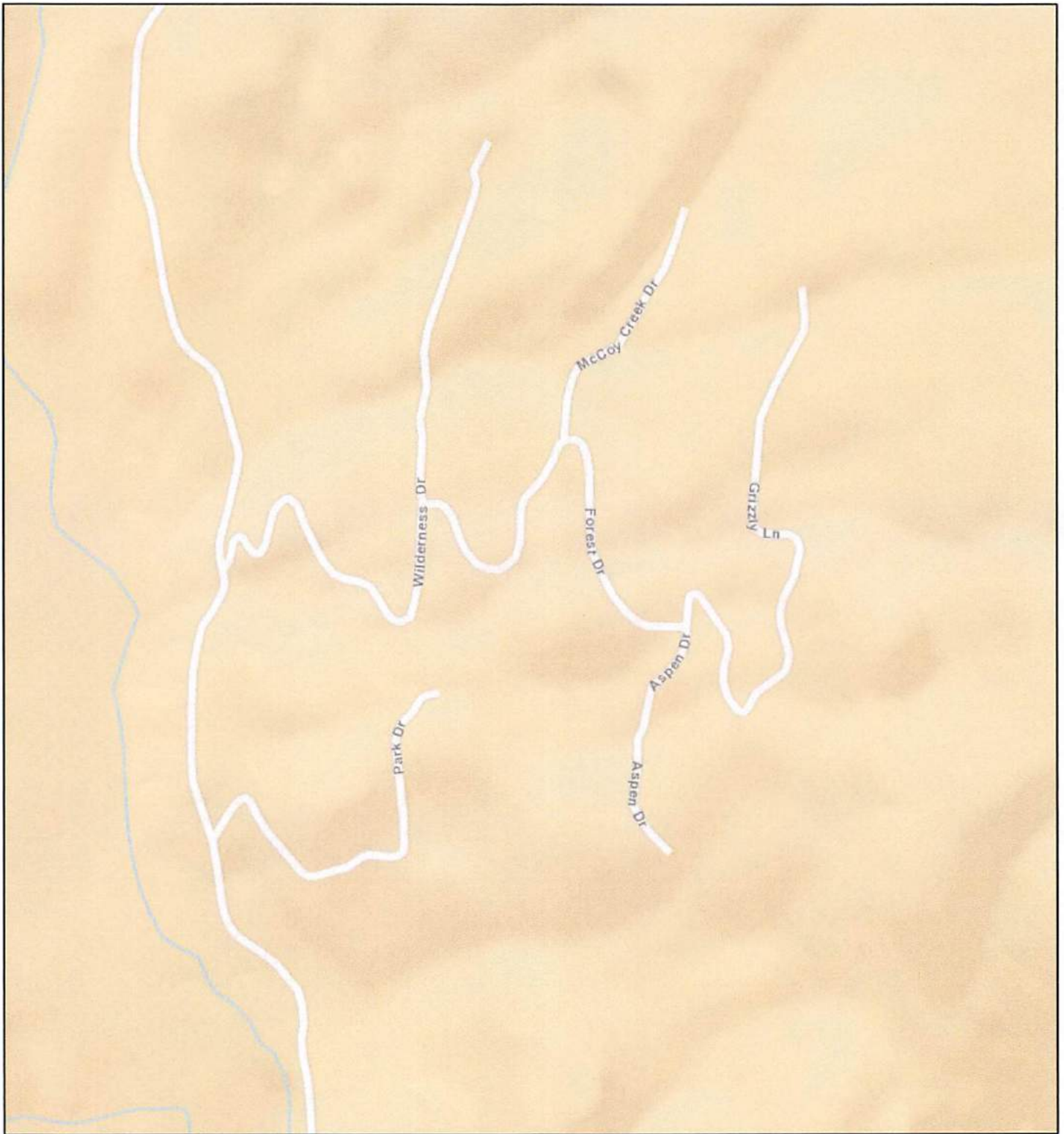


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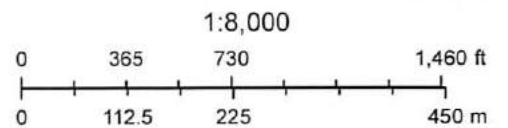


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Florida Park and Wilderness Lake Mountain Estates Roads

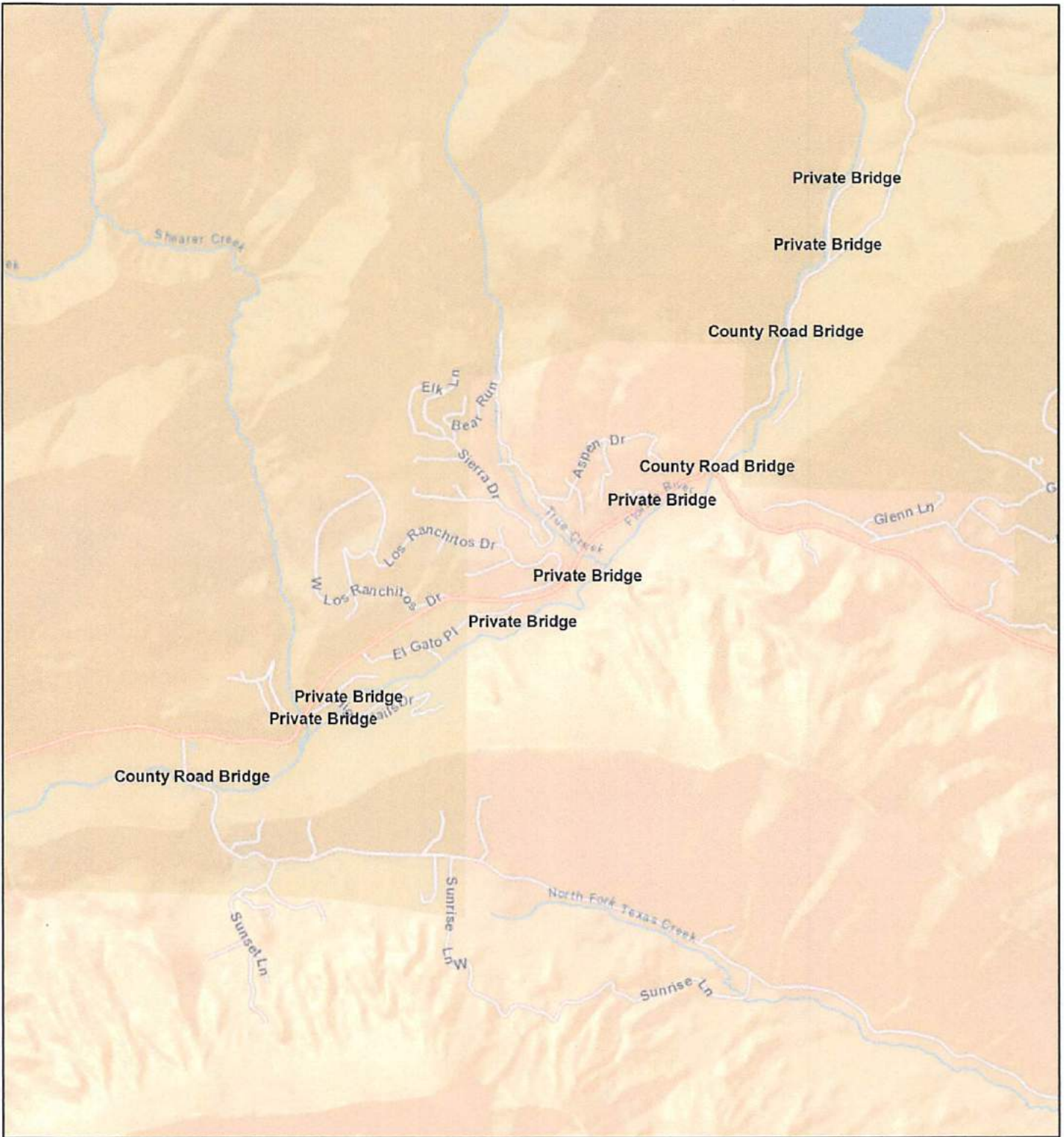


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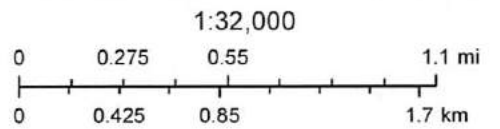


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Below Lemon Dam Bridges

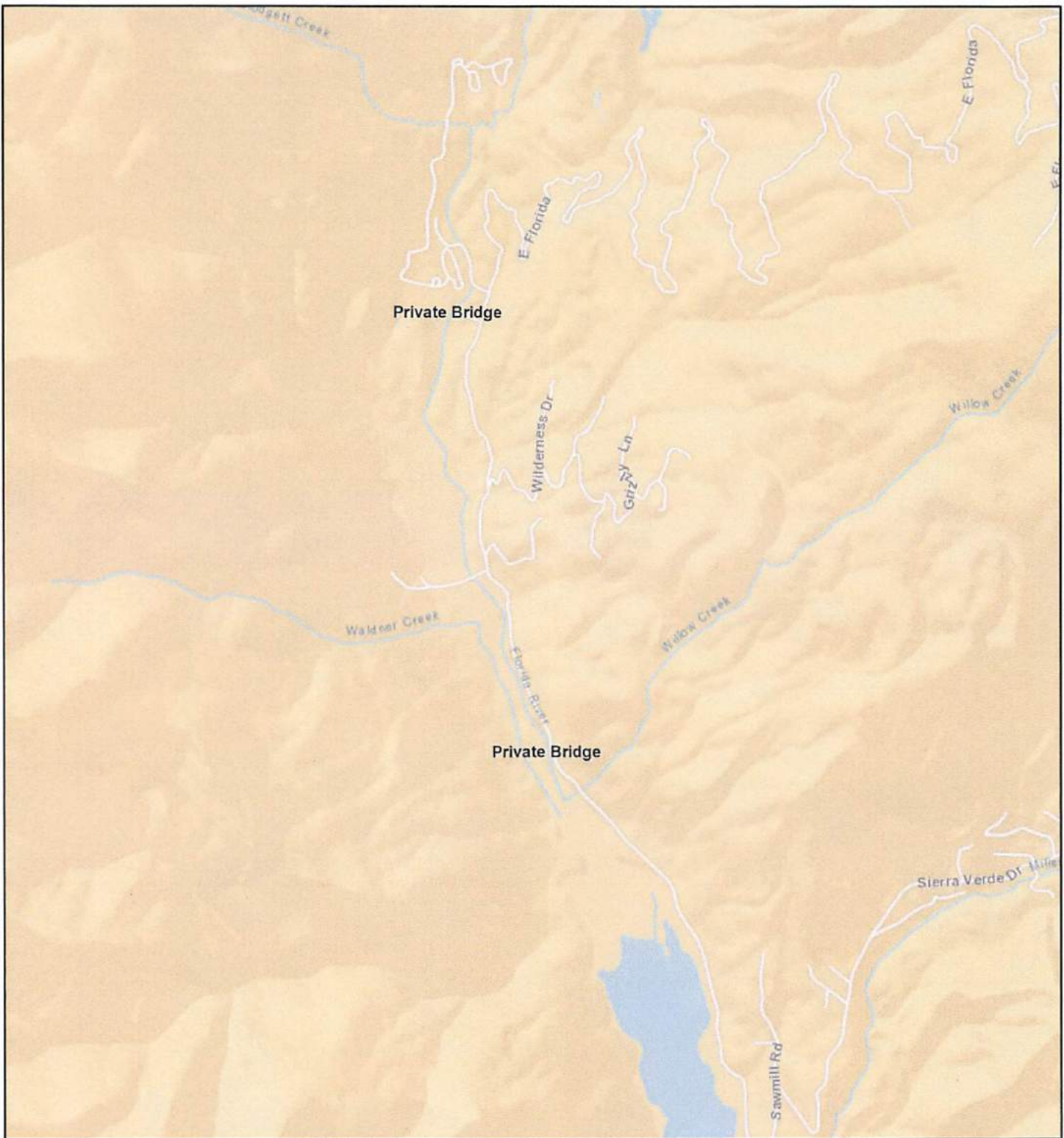


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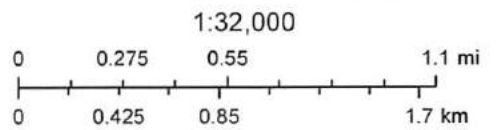


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Upper Lemon Bridges



March 15, 2017



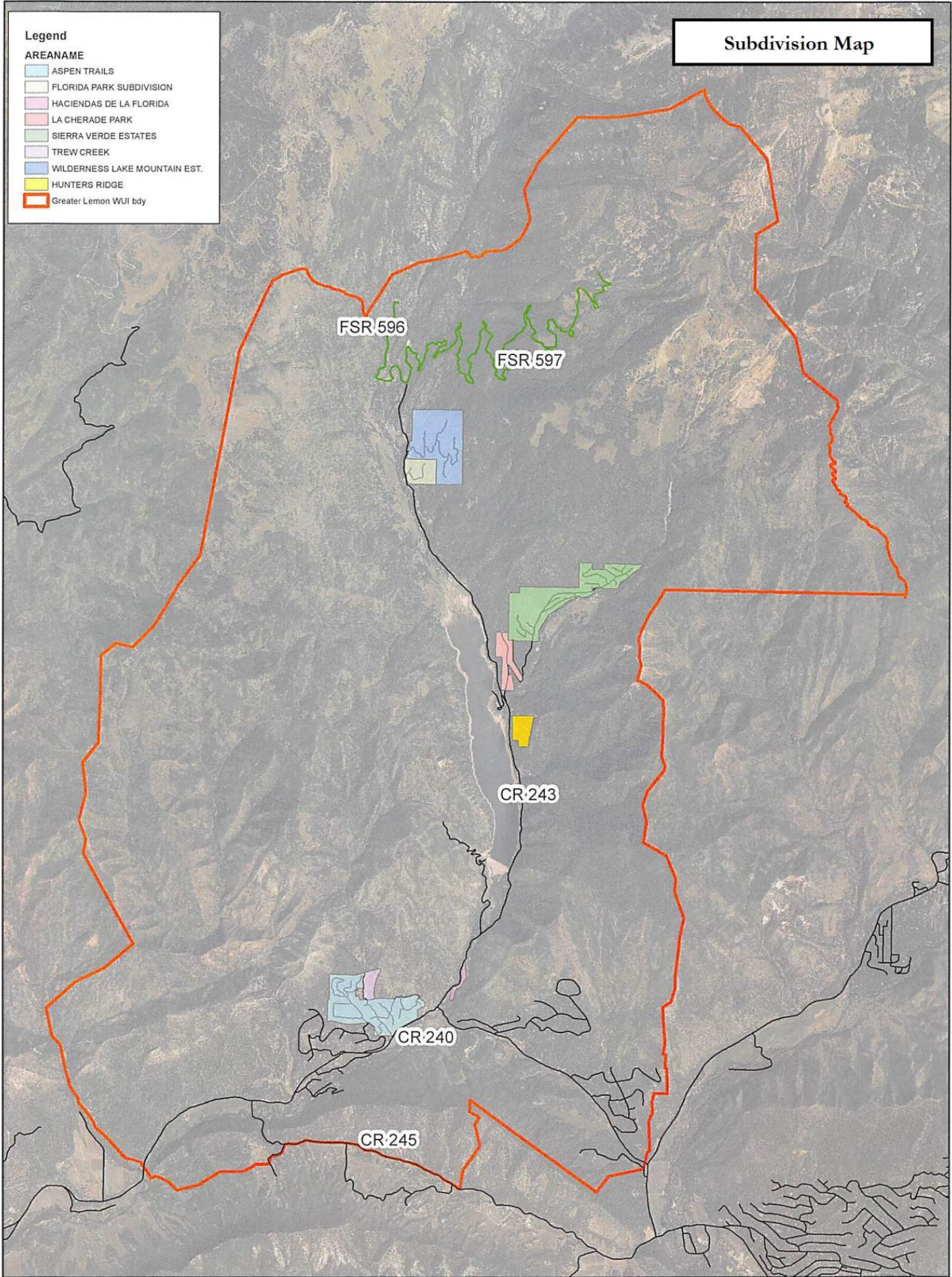
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Subdivision Map

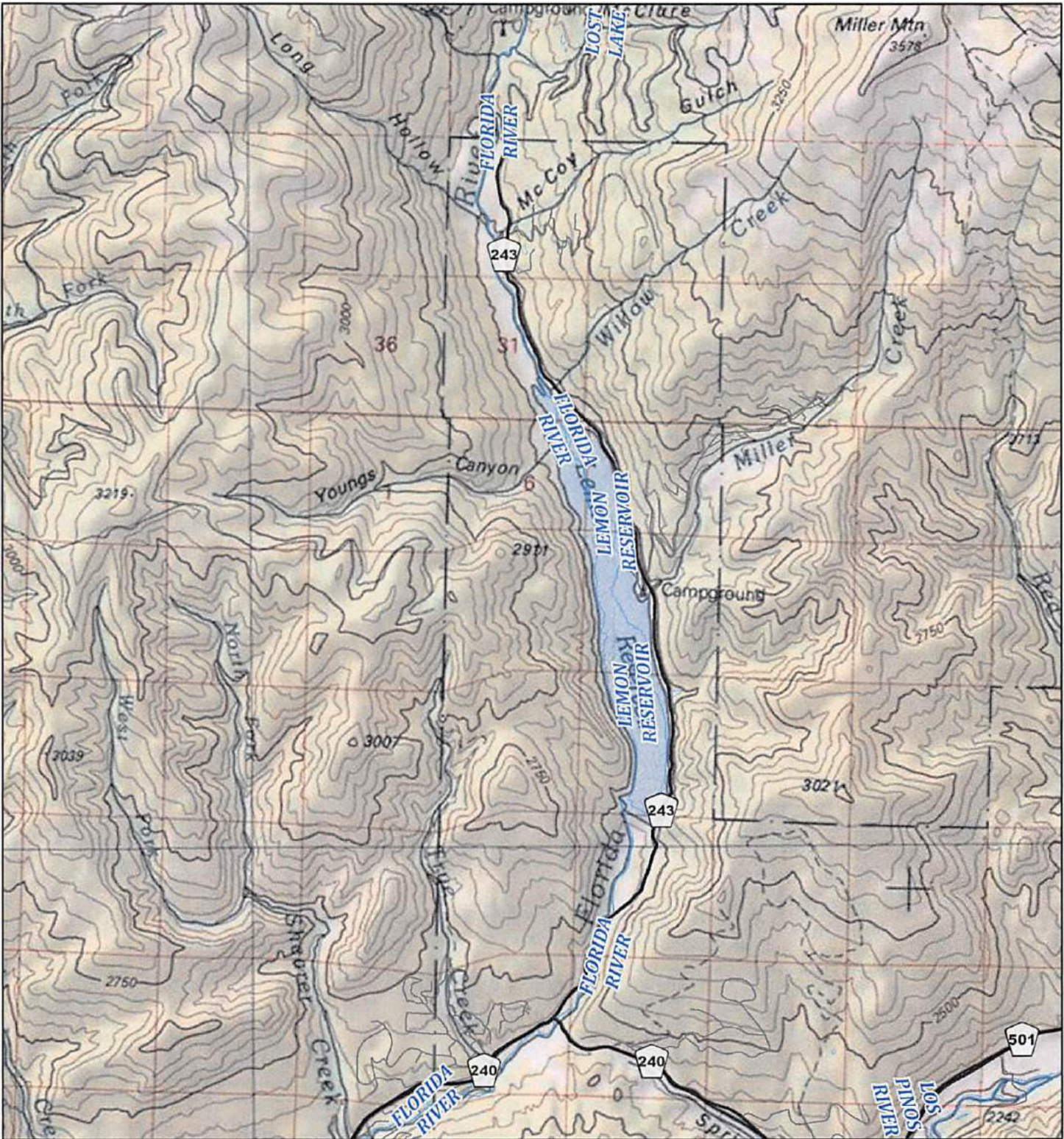
Legend

AREANAME

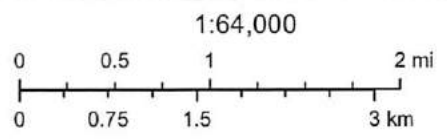
- ASPEN TRAILS
- FLORIDA PARK SUBDIVISION
- HACIENDAS DE LA FLORIDA
- LA CHERADE PARK
- SIERRA VERDE ESTATES
- TREW CREEK
- WILDERNESS LAKE MOUNTAIN EST.
- HUNTERS RIDGE
- Greater Lemon WUI bdy



Greater Lemon Reservoir CWPP Area



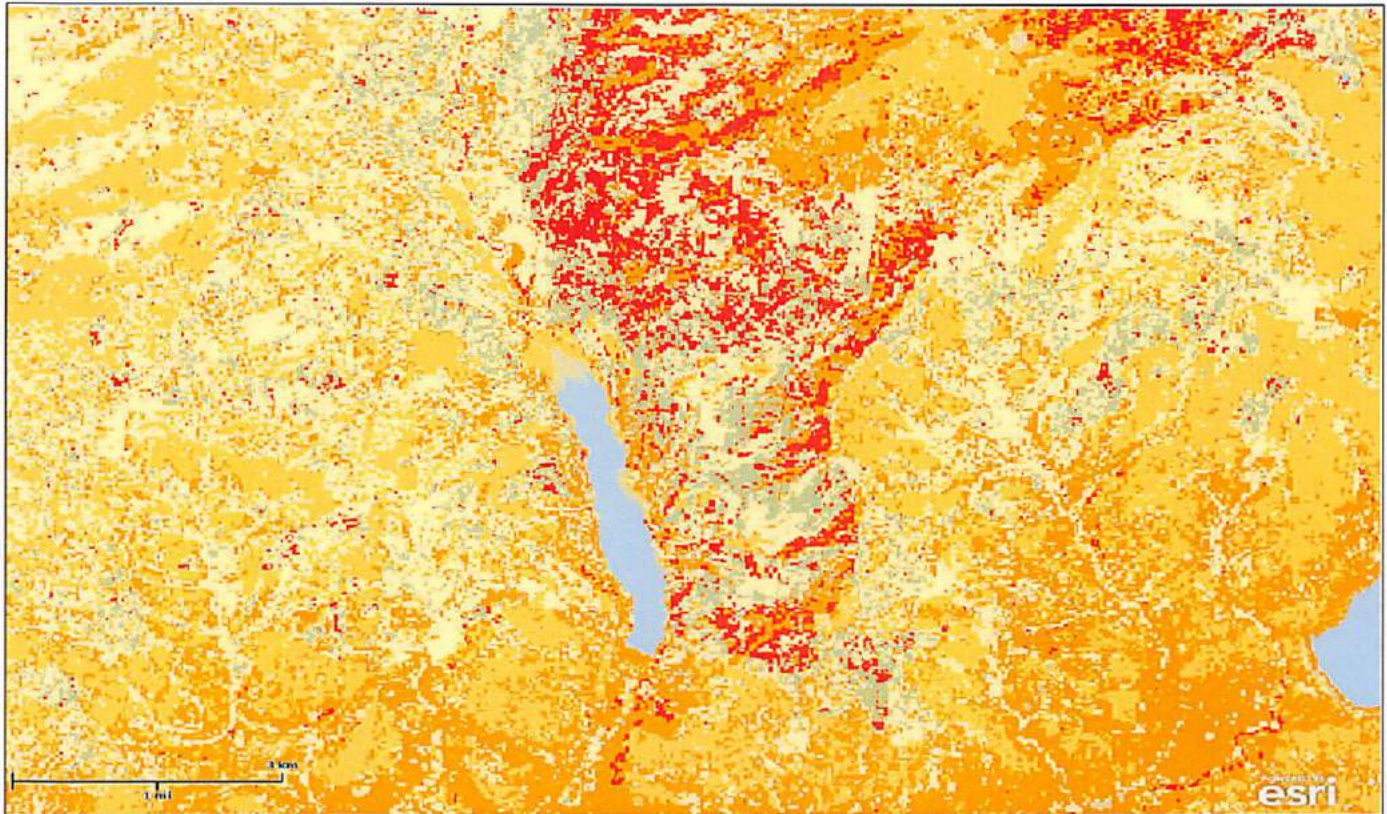
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Fire Intensity Scale, Greater Lemon Reservoir Area

Quantifies the potential fire intensity by orders of magnitude.



Report Created:
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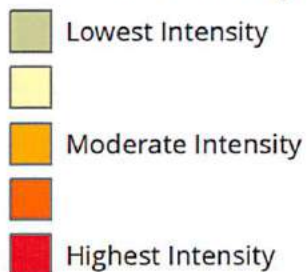
Colorado Wildfire Risk Assessment 2012

www.coloradowildfirerisk.com

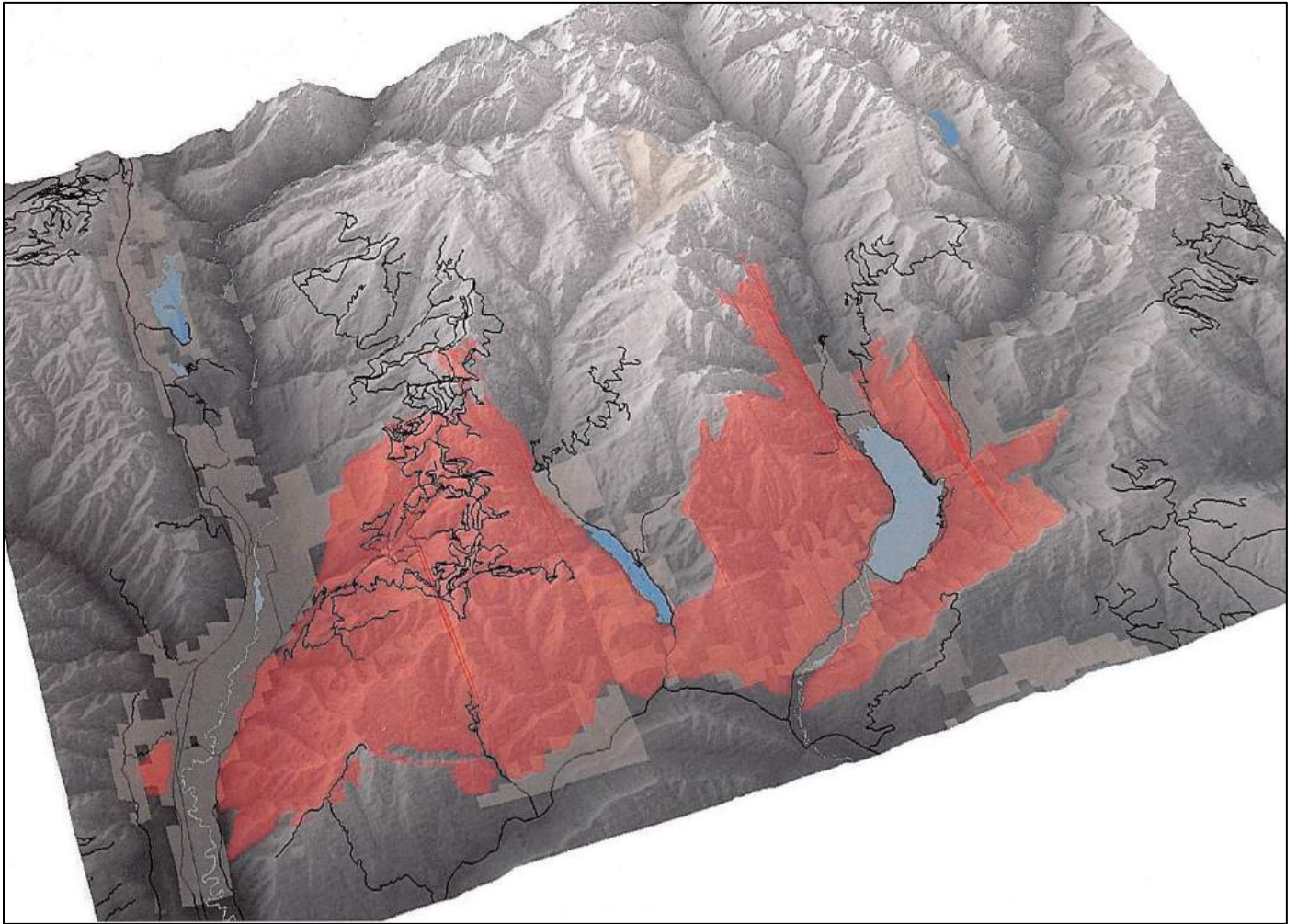
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Fire Intensity Scale



Missionary Ridge Fire June 2002



Recommendations Map GLRCWPP Area

Legend

- Proposed UPFPD Station #9 Vicinity
- Fuels Reduction Area
- Greater Lemon WUI bdy
- Fire Danger Sign
- Community Bulletin Board
- Proposed UPFPD Station #9

FSR 596

FSR 597

Fire Station Location
Along Identified Stretch of Road

Proposed UPFPD Station #9

Resident Station
Multi-Agency Site
Community Meeting Space
Cell Tower Booster
Emergency Warning System (Siren)
Biomass Burner
Community Bulletin Board

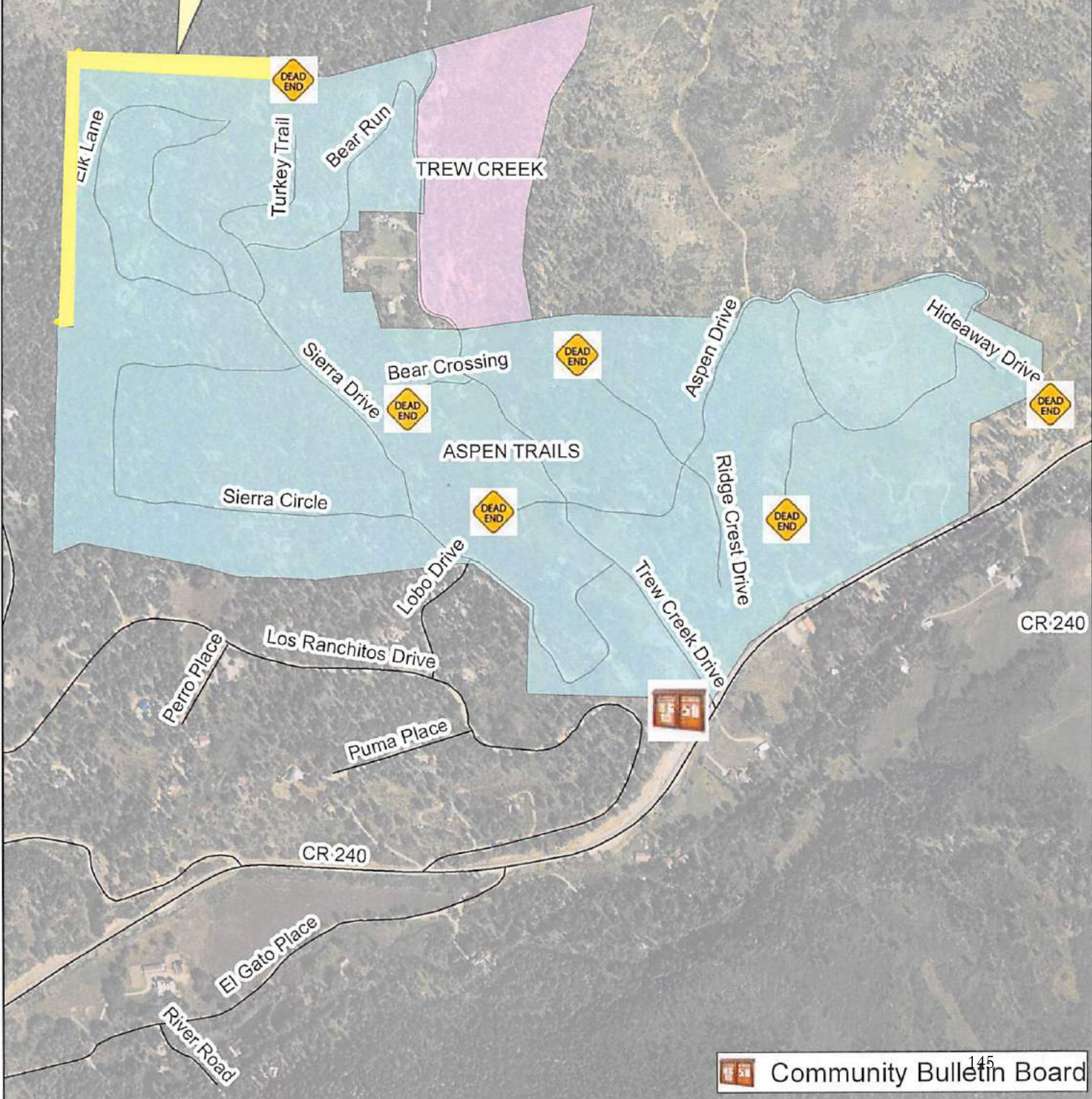
CR 243

CR 240

CR 245

Recommendations Map Aspen Trails

Fuels Reduction Area



Recommendations Map Trew Creek

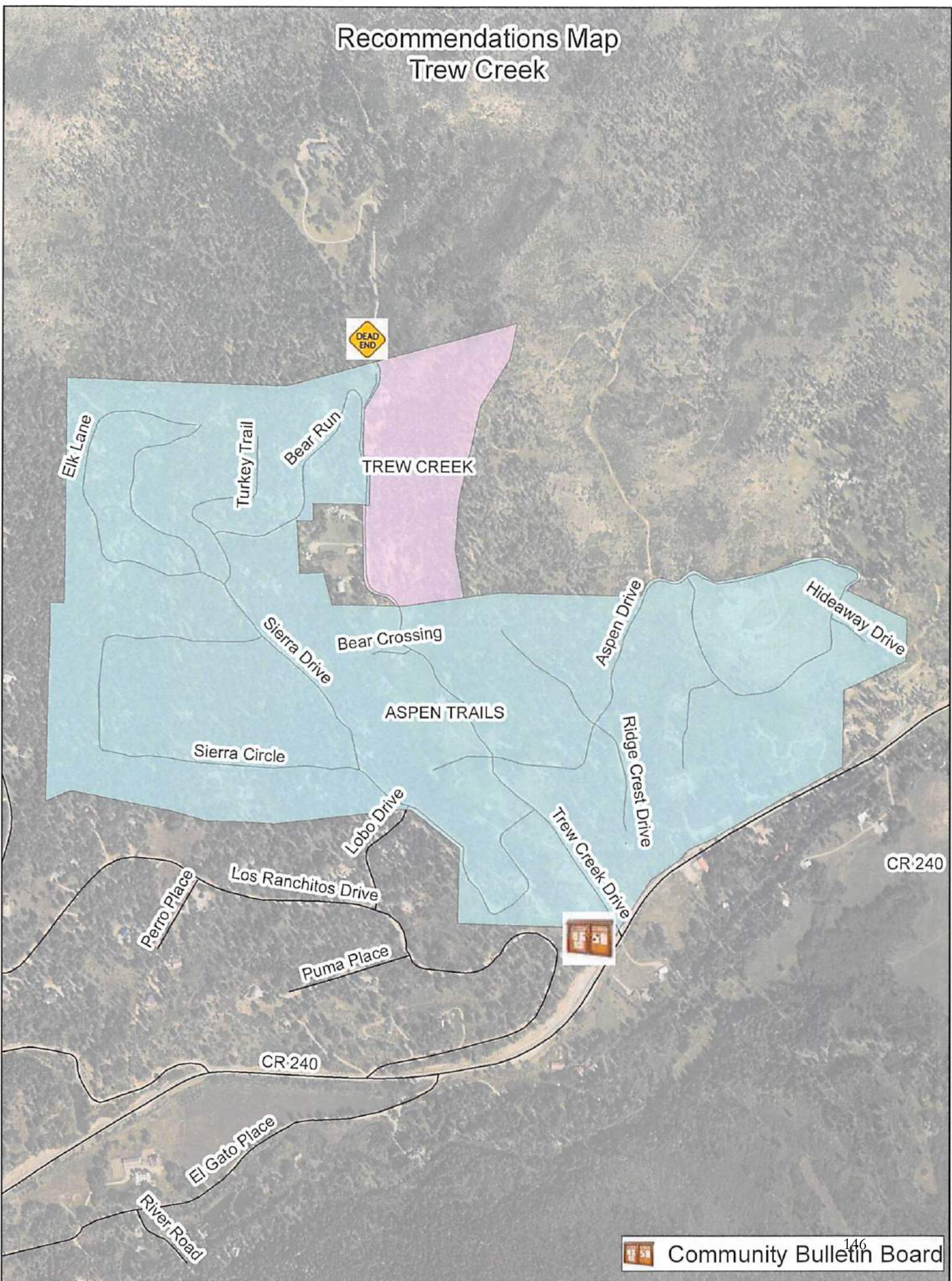


TREW CREEK

ASPEN TRAILS

CR 240

CR 240



Recommendations Map
Haciendas de la Florida

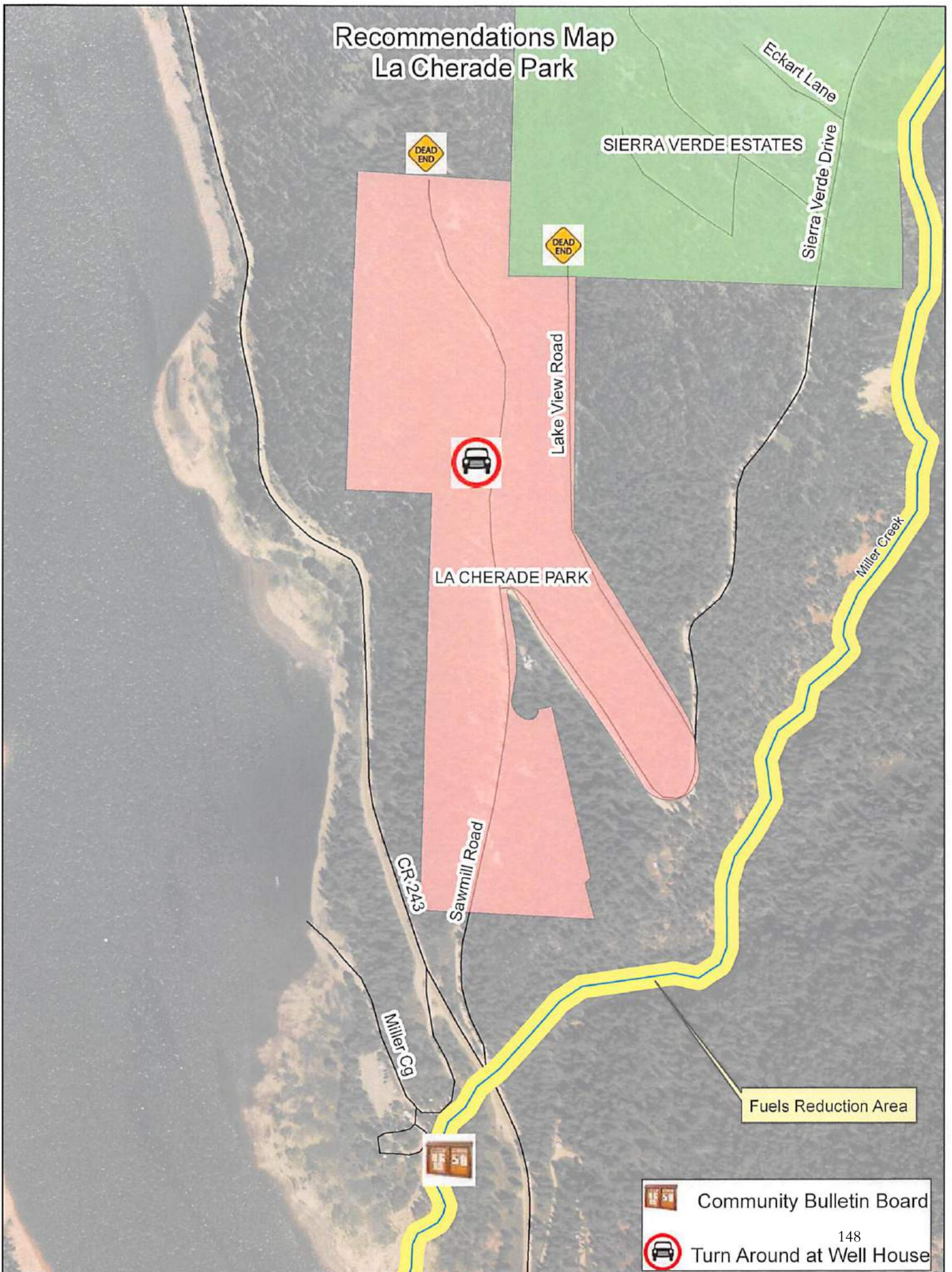
Fuels Reduction Area

HACIENDAS DE LA FLORIDA



CR 243



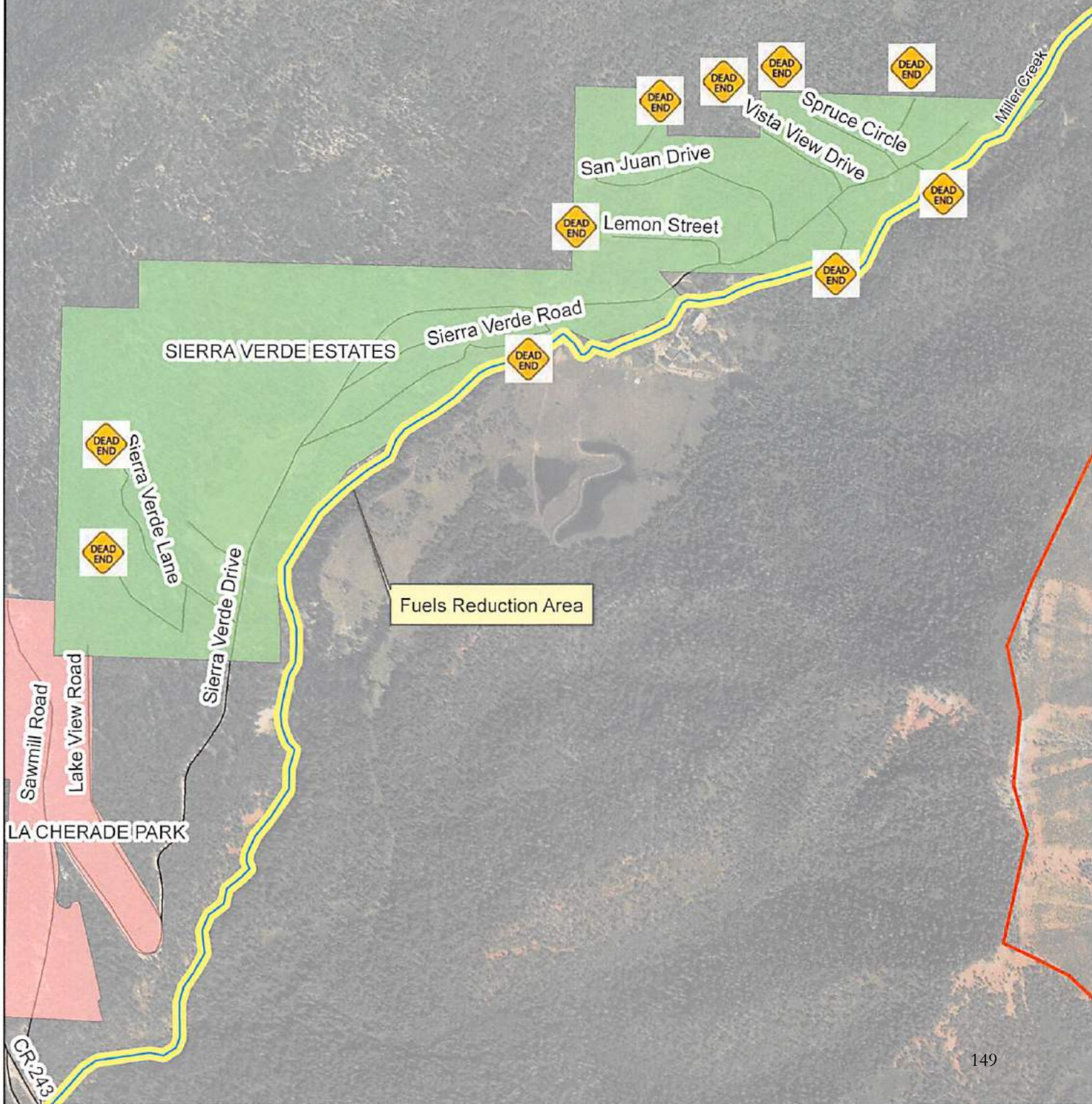
Recommendations Map La Cherade Park



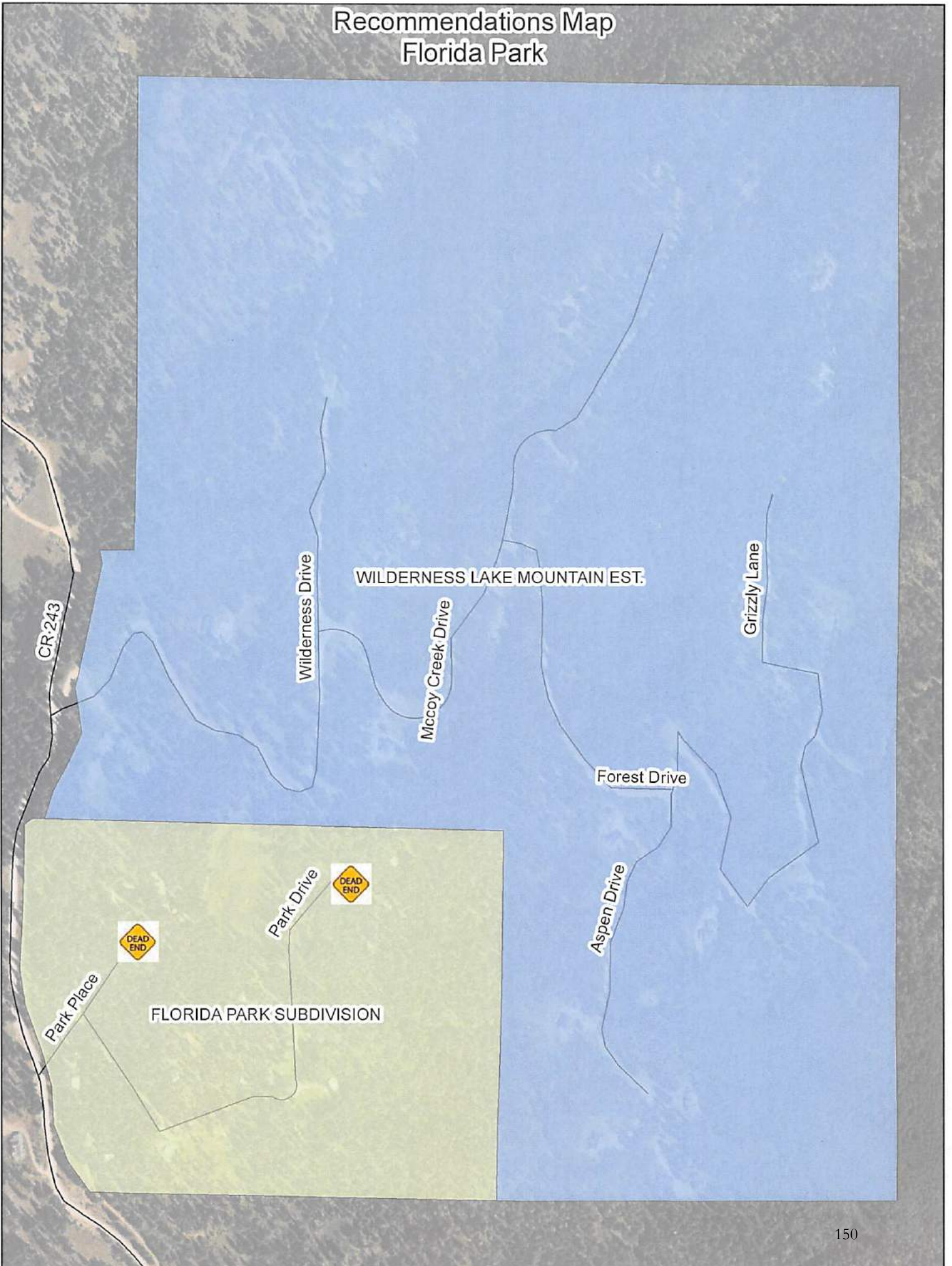
Fuels Reduction Area

-  Community Bulletin Board
-  Turn Around at Well House

Recommendations Map Sierra Verde Estates



Recommendations Map Florida Park



Recommendations Map Wilderness Lake Mountain Estates

