

Community Wildfire Risk Assessment

Pagosa Lakes Property Owners Association

Prepared by:

Bill Trimarco

NFPA Certified Wildfire Mitigation Specialist

#CWMS-20-33

July 20, 2021

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Pagosa Lakes Property Owners Association**

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Introduction

This Community Wildfire Assessment is an overview of the resources at risk and some potential action items for a 13,400 acre community. A subdivision that is as large and varied as Pagosa Lakes Property Owners Association would benefit greatly from assessments at a smaller scale that could go into more specific details and prioritized treatment areas.

This overview does highlight the factors that are common across the subdivisions that are part of the association.

Location

Pagosa Lakes Property Owners Association (PLPOA) lies entirely within Archuleta County in Southwest Colorado. The Town of Pagosa Springs is adjacent to the Association. The Administration building, which is relatively centrally located, is at 230 Port Avenue, with coordinates of 37 ° 14' 52" N and 107 ° 05' 49" W.

PLPOA is bounded on the North and West by the San Juan National Forest. Piedra Road (CR 600) forms much of the Eastern boundary and Trujillo Road (CR 500) is to the South. US Highway 160 bisects the subdivision and is the only paved road that connects the community with destinations to the East and West. No roads within the subdivision connect with paved roads leading to destinations in the North or South.

Description

PLPOA is a covenant-controlled community comprised of over 6600 properties situated in 27 subdivisions encompassing 21 square miles. The full time population is approximately 7500, but the summer population is considerably higher when the tourist season is on. The Pagosa Lakes Property Owners Association is a mixed-use planned development which consists mainly of single-family residential lots, but also includes condominiums, townhouses, apartments, mobile homes and commercial properties. Time-share units are also included in Pagosa Lakes. There are 5 lakes reserved for the use of property owners and their guests.

825 acres of greenbelts are interspersed throughout the Association properties. The bulk of that acreage is owned by Wyndham Resort Properties, which also manages a number of time-share units in the Association.

PLPOA is served with both paved and hard surfaced gravel roads. Most are 24 feet in width or better. Most areas have multiple access and egress routes, but US Hwy. 160 is the only all season road in and out of the area. US Highway 160 bisects the subdivision and is the only paved road that connects the community with destinations to the East and West. No roads within the subdivision connect with paved roads leading to destinations in the North or South.

Vegetation

The predominate vegetation types in PLPOA are ponderosa pine with Gambel oak and juniper understory with areas of grasslands in the valleys. There are some Douglas-fir stands on the steeper north aspects. Areas of aspen and various species of brush are interspersed.

Some areas of PLPOA appear to be old pasture or clear-cut areas. Much of the forested areas have been cleared only enough for the footprint of the structures. The greenbelt areas have seen little to no maintenance and support dense trees and excessive underbrush.

The surrounding vegetation is similar to that within the subdivision. Much of the National Forest land surrounding PLPOA has seen both mechanical and prescribed fire treatments to promote forest health and to protect the residents and structures in the adjacent subdivision.

Topography

Topography throughout includes rolling hills, steep slopes, canyons and grasslands. Elevation approximately ranges from 7200' to 7800'.

Wildfire Risk

All of PLPOA is within the Wildland Urban Interface (WUI). The WUI is the area that can be threatened by wildland fire, either from direct flame contact or from windborne firebrands or embers. The wildfire risk rating in PLPOA runs from moderate to high to extremely high. The majority of the acreage is in the high category.

Fire Regimes

The fire hazard is high in the ponderosa pine type, classified within Fire Regime I—frequent (less than 35 years) low intensity understory fires. The ponderosa pine stands were logged 80 to 100 years ago and have not seen any widespread fire in over 100 years. The Douglas-fir type is classified in Fire Regime III—35 to 200 years frequency with mixed severity. The grasslands are in Fire Regime III—35 to 200-year stand replacement and low severity. These grasslands are composed of a mix of native and introduced species and most are perennial and recover quickly following fire, especially the native species.

Conditions

Ponderosa forests: Condition Class 3 because they have missed several fire cycles and are at high risk of disturbance that could damage the ecosystem and impair recovery.

Douglas-fir forests: Condition Class 2 because a few fire cycles have been missed and are at moderate risk of disturbance that could damage the ecosystem and impair recovery.

Grassland vegetation: Condition Class 2 because many years of grazing have maintained a low fuel load and reduced the risk of damage by wildfire. The exception is in areas with cheat grass which would be classified in Condition Class 3. Cheat grass is very volatile and frequently comes back with more cheat grass following fire, reducing the ability of native grasses to recover.

Wildfire Season

The typical fire season in Archuleta County runs from April through October. June is generally the driest month of the year followed by May and October. August and February are typically the wettest months.

The area has been in a long term drought pattern with evidence of a significant change in the climate. In recent years, the wildfire season has often started one month earlier and lasted one month later

Values at Risk

PLPOA'S population numbers are variable. Approximately 7500 people are full time residents. Many of the homes are occupied seasonally or part time. Archuleta County has a population of 13,000, but that number can increase to over 40,000 around the Fourth of July each year. Because of the seasonal nature of the population, it is impossible to determine how many people are in the development at any time.

PLPOA receives water and sewer services from the Pagosa Area Water and Sanitation District (PAWSD). Their main office and a treatment facility is within PLPOA boundaries. Electrical service is supplied by La Plata Electric Association (LPEA). The only transmission lines to the Pagosa area run parallel to US Hwy. 160.

The majority of the 6600 lots have been developed. County building codes or Association covenants do not encourage or require the use of fire-resistant building materials or construction. Therefore, a wide variety of structural materials and designs can be found throughout the development. They include stucco over wood frame, wood on plywood, wood frame, masonry, stone, prefabricated materials, log, log siding, and metal. Roofs coverings are primarily metal or composite shingles. Most decks are wood or composite material. Wooden decks, porches and fencing attached to structures are common throughout the Association.

PLPOA is home to a wide variety of wildlife, including mountain lions, bobcats, coyotes, badgers, mule deer, elk, prairie dogs, rabbits, and many smaller rodents such as squirrels, chipmunks, and voles. The bird population varies with the seasons, and includes a resident population of wild turkeys.

Protection Capabilities

The entirety of PLPOA lies within the Pagosa Fire Protection District (PFPD). The District has a paid staff of 8, including administration staff, and about 45 volunteer firefighters. All firefighters are trained in both structure and wildfire techniques. The District has seven stations in total. Station 1 is within PLPOA boundaries and is the only station that is staffed 24/7.

District-wide, the firefighting equipment includes seven engines, five tenders (water trucks), one aerial truck with a 75-foot ladder, four brush trucks, a mobile command vehicle, a maintenance truck and other smaller vehicles.

PFPD has a mutual aid agreement with the US Forest Service and the Bureau of Land Management as well as Los Pinos and Upper Pine River Fire Departments.

Archuleta County Office of Emergency Management has 3 engines and a staff of 3 full time and 3 seasonal firefighters trained in wildland fire procedures.

Potential Wildfire Scenario

A likely scenario for a Pagosa area wildfire is in the appendix. The projected dollar amounts are for a 105,000 acre wildfire that is contained south of Hwy 160. It is expected that there would be loss of life in this instance. If a significant fire were to begin or enter into Martinez Canyon, the affected acreage could easily double and catastrophic losses would be expected in PLPOA.

Most of the subdivision is in the high to extremely high wildfire risk category. Some important factors that contribute to these high ratings are the number of homes at risk and the amount of available fuel, predominantly ponderosa pine, Gambel oak and juniper. Vertical fuels, like oak brush and juniper, abound. These fuels serve as ladders to carry ground fire into the crowns of the larger trees. The canopies of these larger trees are close or touching across much of the subdivision, creating horizontal paths of fuel. A canopy fire in many parts of PLPOA could easily travel and burn hundreds of acres of populated areas. There are very few places within the subdivision where a large fire could be contained. Piedra Road, US Hwy. 160 and the meadow areas of the Ranch Community, south of Lake Pagosa are possible fire breaks dependent on actual fire situations.

Canopy fire is of great concern in the subdivision. Most of the ponderosa in the subdivision is second growth forest that is overcrowded and stunted due to lack of moisture. That forest is stressed due to many years of drought and is highly susceptible to wildfire and/or beetle infestation. In many areas, trees are in close proximity to structures, often with branches touching buildings. Throughout the subdivision, unmanaged greenbelts overgrown with fuels connect multiple areas and can serve as pathways to the fuels closer to the homes. Many homes cannot create proper defensible space due to the proximity of greenbelts to structures.

Current Actions

For many years PLPOA has been helping homeowners protect their lives and property from wildfire threats. Both management and individual residents have partnered with Wildfire Adapted Partnership acting as volunteer ambassadors to educate and assist residents.

Accomplishments:

- Created a Slash Depot where residents can bring woody slash from mitigation work. The slash is chipped and offered as mulch and mud control product for residents.
- Offers pine needle pickup for residents.
- Streamlined the process for tree removal permitting and approval.
- Issues regular email blasts to educate residents about wildfire preparation.
- Volunteered as firewise Ambassadors, spark plugs for community involvement in wildfire preparedness.
- Encouraged creation of Defensible Space around homes and aided Wildfire Adapted programs to offer financial assistance for mitigation work on properties.
 - Significant numbers of homes have done this work.
- Sponsored community wildfire education events.
- Sponsored a wildfire work day to help disabled residents clean up their properties for wildfire preparedness.

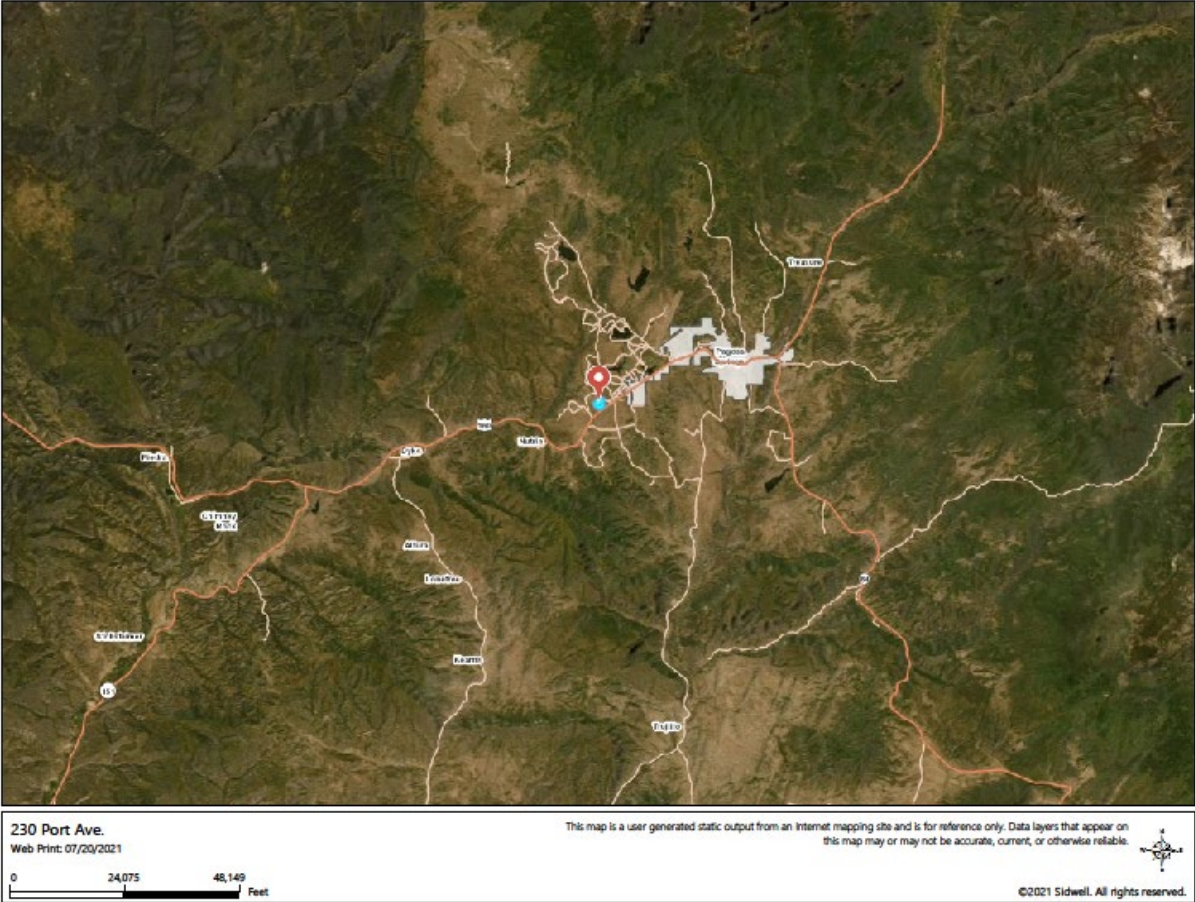
Recommended Future Action Items

- PLPOA should continue to promote the creation of Defensible Space on vacant lots and developed properties.
 - Outreach through email and events
 - Continued support programs to offer mitigation incentives to owners
 - Continue to fund the Slash Depot
 - Monitor annual tonnage processed at yard
 - Extrapolate number of acres protected
 - Monitor numbers of homes protected through tree removal permits and coordination with Wildfire Adapted
- Unmaintained greenbelts pose a significant risk to property owners. They serve as conduits for fire to easily spread throughout the subdivision. In many cases, they block property owners from adequately protecting their homes and structures.
 - Develop a strategic (5 year?) plan to mitigate wildfire risk on greenbelts.
 - Remove trees within 30 feet of structures. (This is a suggestion. Actual distances should be determined on a case by case basis.)
 - Thin trees to Colorado State Forest Service forest health guidelines.
 - Clump oak brush to create gaps between groups. (Re-treat every 5 years.)
 - Some areas may require summer grass mowing, at least within 30 feet of structures.
 - Research ways to implement the plan
 - Logistics
 - Mechanical options
 - In-house or hired crews
 - Youth Corps
 - Goats for mitigation
 - ???
 - Funding
 - Grants
 - Assessments
 - ???

Appendix

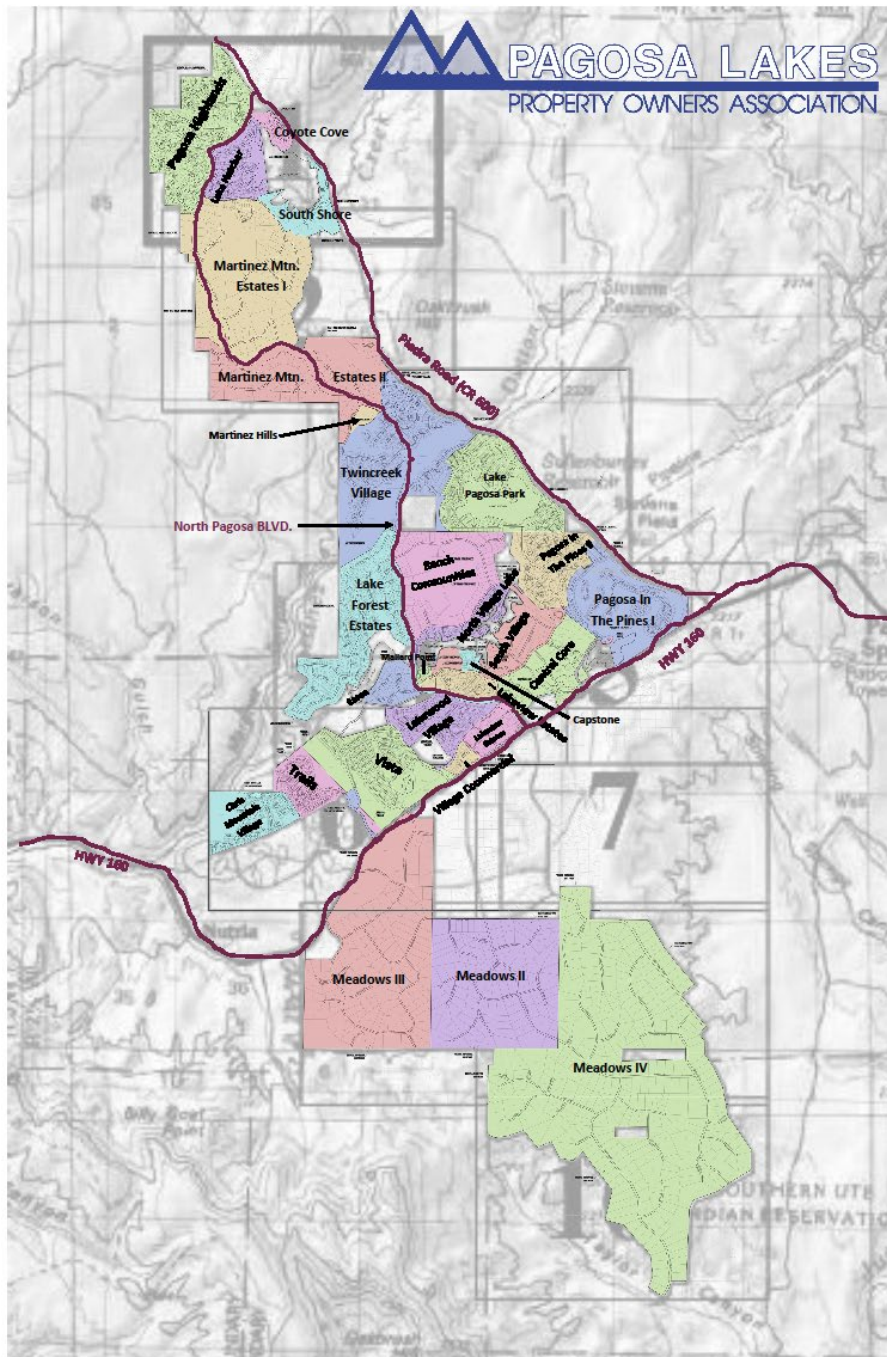
Appendix I

PLPOA Location



Appendix II

PLPOA Subdivisions



Appendix III

Wildfire Risk



Colorado Wildfire Risk Public Viewer

<https://co-pub.coloradoforestatlas.org>

Wildfire Risk_PLPOA

The overall composite risk occurring from a wildfire derived by combining Burn Probability and Values at Risk Rating.

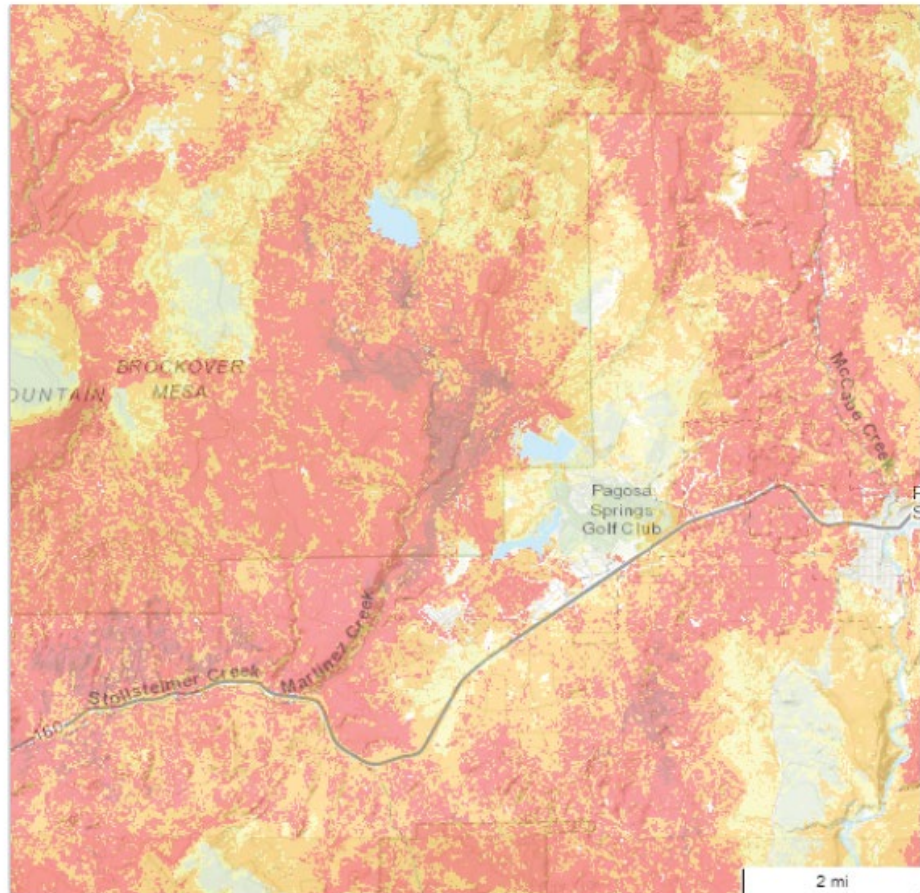
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Legend

<https://co-pub.coloradoforestatlas.org>

Wildfire Risk

- Lowest Risk
- Low Risk
- Moderate Risk
- High Risk
- Highest Risk

County Boundaries

< 1:1,500,000

Appendix IV

Wildland Urban Interface



Colorado Wildfire Risk Public Viewer

<https://co-pub.coloradoforestatlas.org>

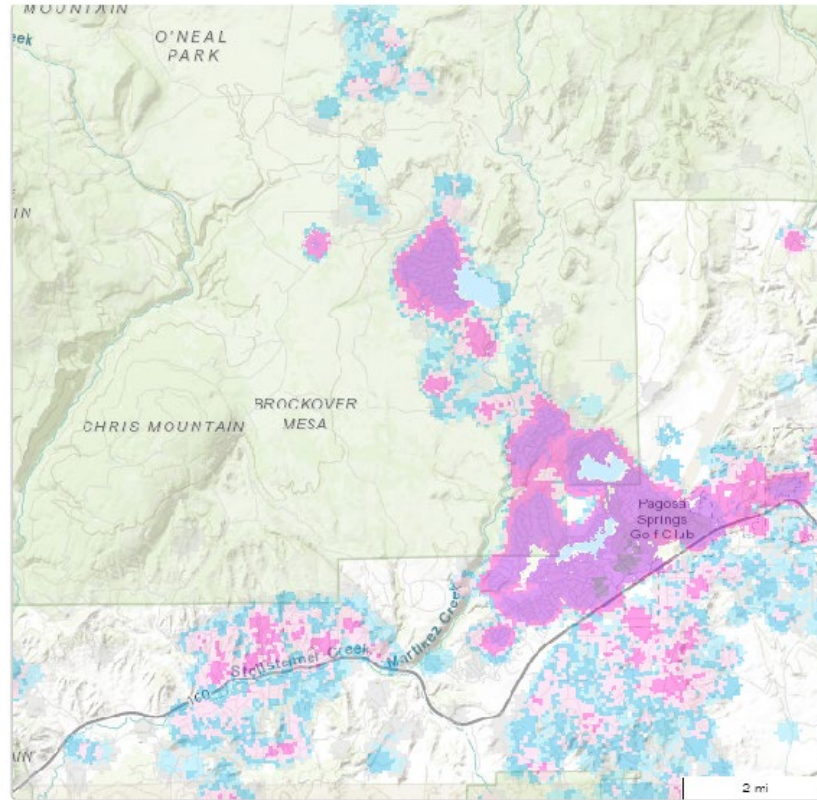
Wildland Urban Interface_PLPOA

Housing density depicting where humans and their structures meet or intermix with wildland fuels.

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Legend

<https://co-pub.coloradoforestatlas.org>

Wildland Urban Interface

- Less than 1 house/40 ac
- 1 house/40 ac to 1 house/20 ac
- 1 house/20 ac to 1 house/10 ac
- 1 house/10 ac to 1 house/5 ac
- 1 house/5 ac to 1 house/2 ac
- 1 house/2 ac to 3 houses/ac
- More than 3 houses/ac

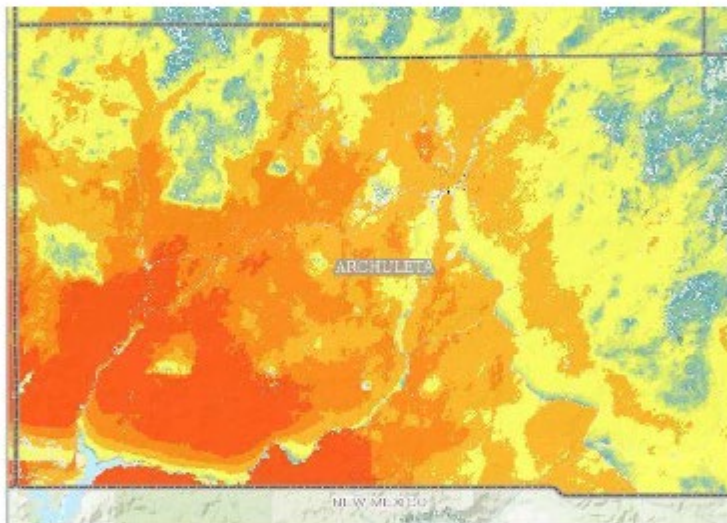
County Boundaries

- < 1:1,500,000

Appendix V

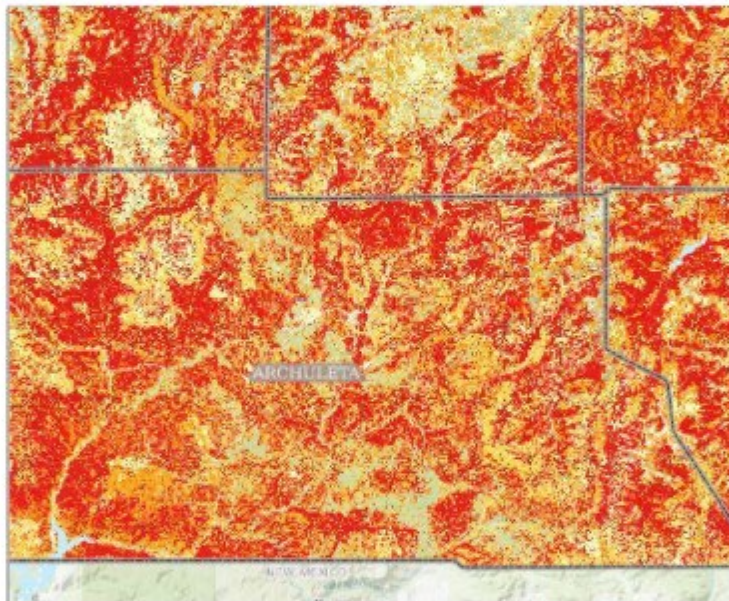
Wildfire Scenario_Probability

Where's the next fire?



Burn Probability
Colorado State Forest Service
Forest Atlas

How bad could it be?



Fire Intensity
Colorado State Forest Service
Forest Atlas

**A likely scenario in Archuleta County is a
105,000-acre wildfire.**



What if that fire made it into Martinez Canyon and jumped Trujillo Rd?



225,000-acre wildfire

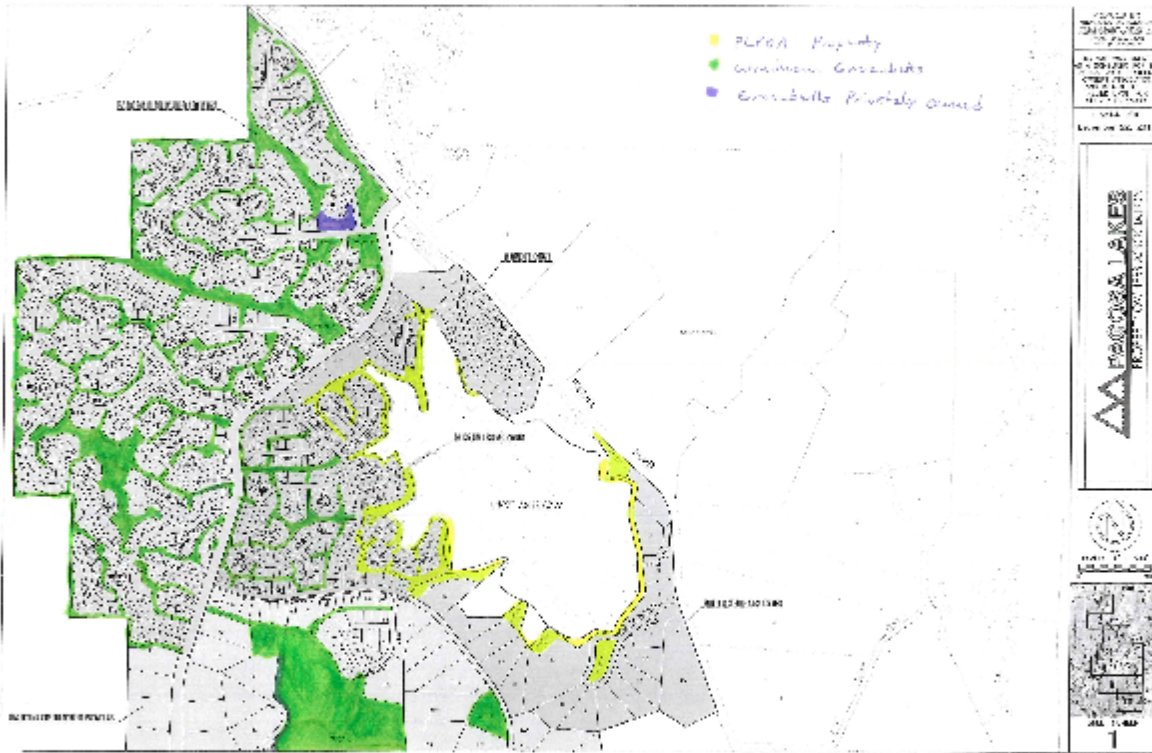
Wildfires are **expensive** and require mobilization of many resources during and after the event

Expected costs of a 105,000-acre wildfire in an area like Pagosa Springs, CO:

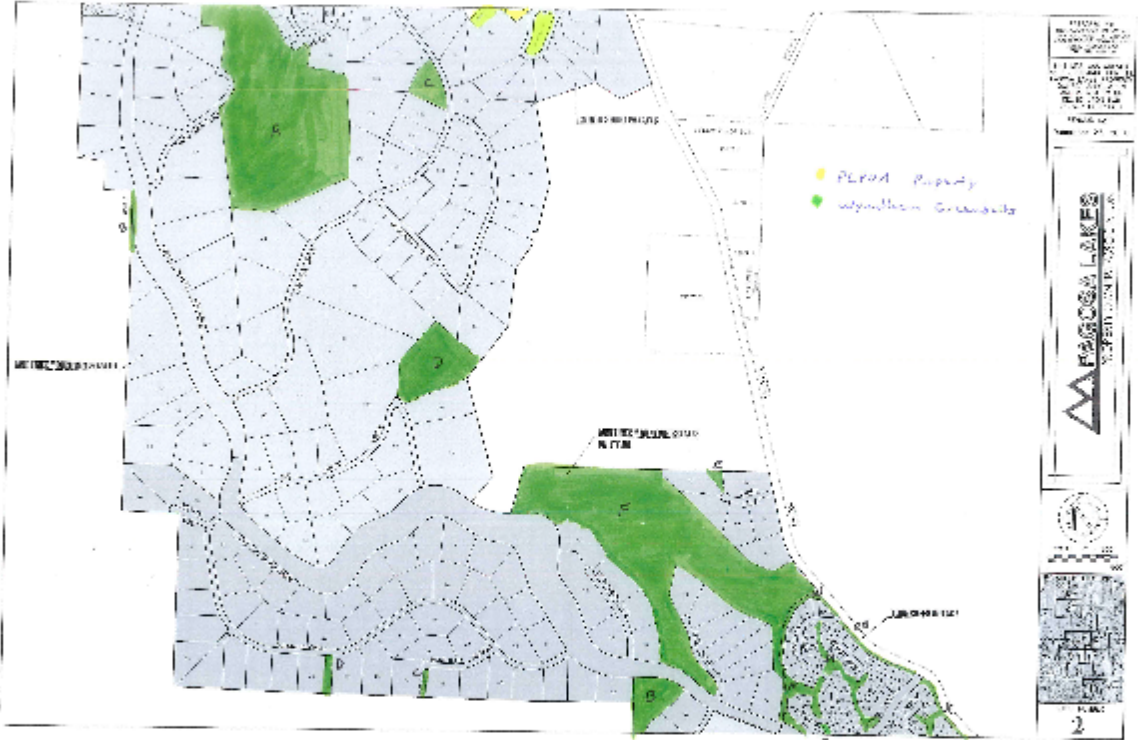
Federal fire suppression cost: _____ \$42 million
Local fire suppression cost: _____ \$7M to \$14 million
Local long-term cost: _____ \$301 million
Total long-term cost: _____ \$357 million

Appendix VI

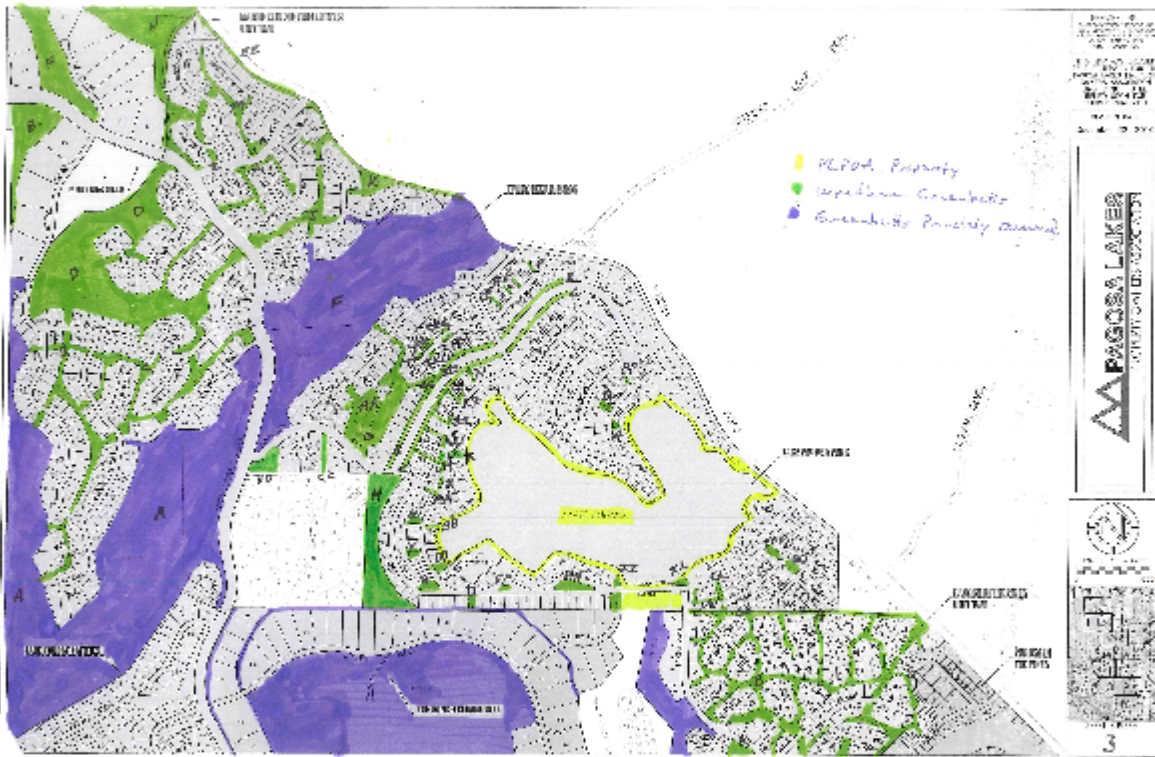
Greenbelt Ownership_Plate 1



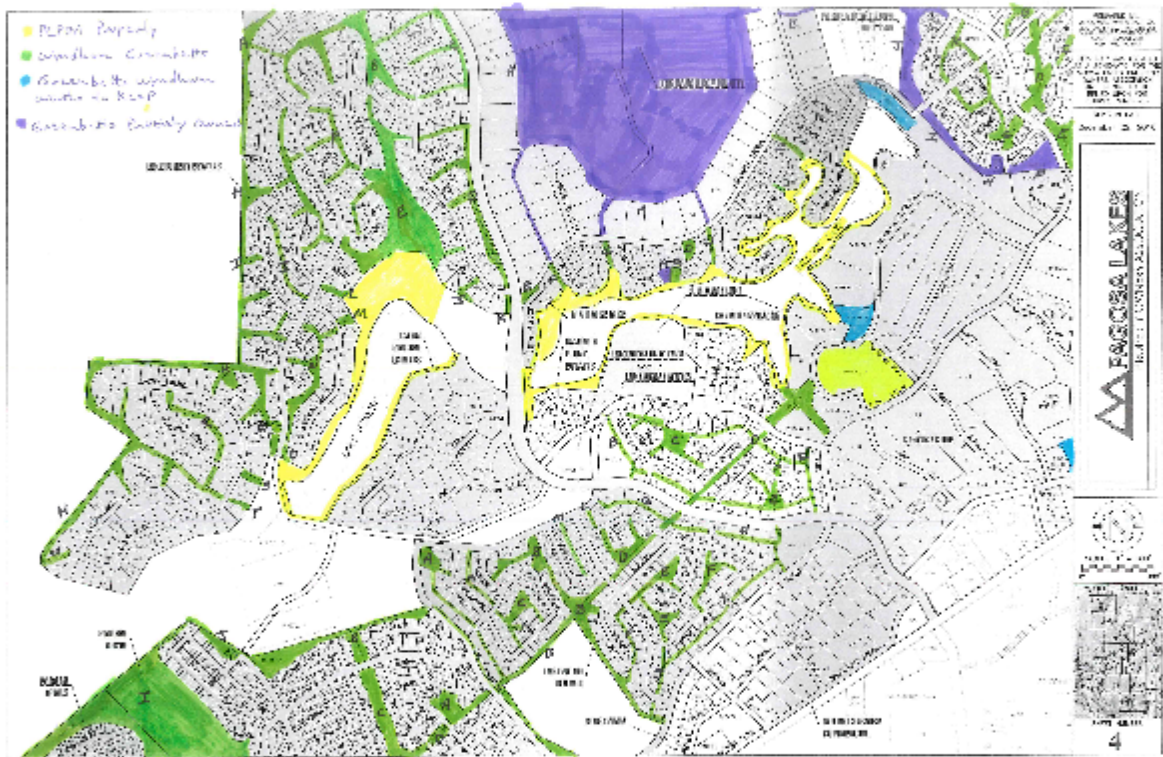
Greenbelt Ownership_Plate 2



Greenbelt Ownership_Plate 3



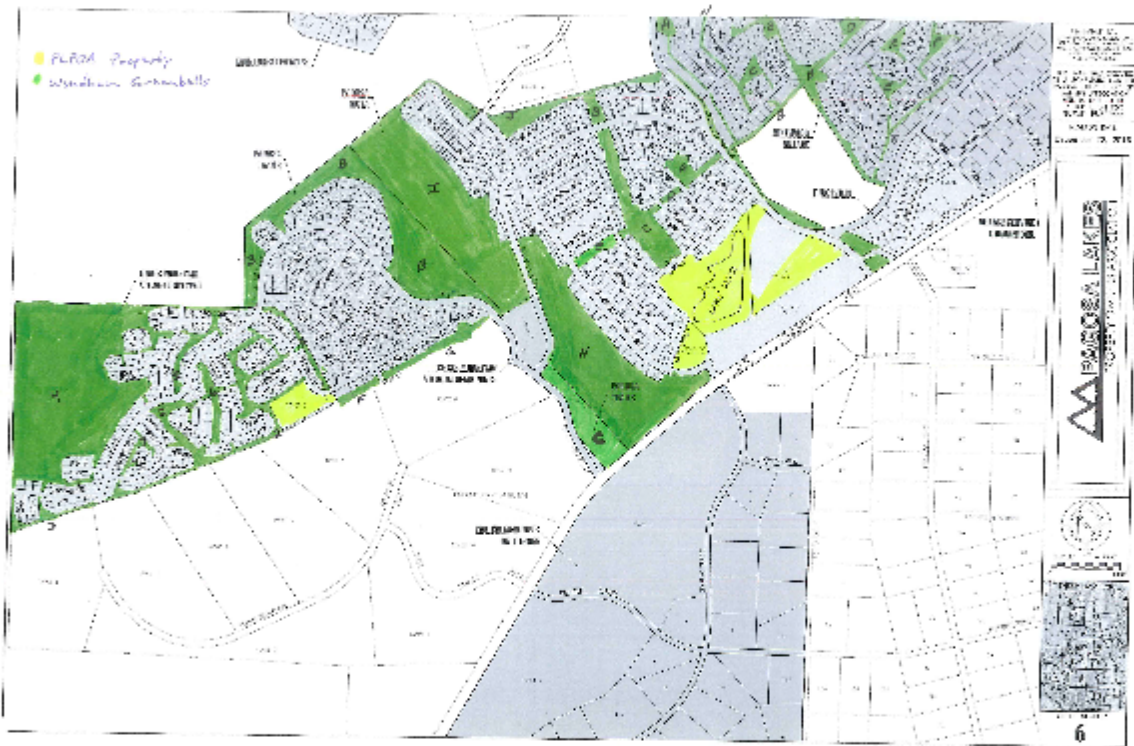
Greenbelt Ownership_Plate 4



Greenbelt Ownership_Plate 5



Greenbelt Ownership_Plate 6



Appendix VII
Examples of mitigated homes in PLPOA

Example 1
Before



After

Example 2



Before



After

Appendix VIII

Examples of Greenbelt Impeding Creation of Defensible Space

In both examples, greenbelt is to the left of the red line.



Examples



Owner has maintained property but threat remains from greenbelt.
(Greenbelt to left of red line)



Unmaintained Greenbelt