Custer County Community Wildfire Protection Plan

a continuing process

September 2007

Prepared by Custer County CWPP Coordinator - Contractor, Len Lankford, President and Forester of Greenleaf Forestry and Wood Products, Inc., with the assistance of Robin Young, Forester of Young's Forestry, both of Westcliffe, Colorado. Contact Len Lankford at (719) 783-4250 or email len@greenleafforestry.com.

This Plan was developed with the collaboration of numerous individuals and agencies. Hazard ratings, analysis, comments, suggestions, and strategies are based on a broad consensus of community participants. More comments and suggestions are welcome.

CUSTER COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN
September 2007

Acceptance/ approval by community and agency authorities:

Custer County Commissioners, by Dick Downey, Chairman

Custer County Sheriff's Office, by Fred Jobe, Sheriff and Fire Marshall

Custer County Office of Emergency Management, by Christe Feldmann

Wet Mountain Valley Fire Protection District, by Mick Kastendieck, Fire Chief

Wetmore Volunteer Fire Department, by ~~Charlie Judge, Fire Chief~~ KEVIN DAY, PRESIDENT OF THE BOARD

Rye Fire Protection District, by Phil Daniels, Fire Chief

Bureau of Land Management, by Roy L. Masinton, Field Manager

Colorado State Forest Service, by John Grieve, District Forester

Paul A. Crespin, San Carlos District Ranger

U. S. Forest Service, by Paul Crespin, District Ranger

CUSTER COUNTY
COMMUNITY WILDFIRE PROTECTION PLAN
September 2007

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EXECUTIVE SUMMARY – summary of findings and conclusions

Custer County and the Wet Mountain Valley are framed by forests and mountains, including major parts of the Sangre de Cristo and the Wet Mountains of south-central Colorado. Its forests are a highly valued component of the mountain environment, which has seen steady changes in increased wildland residential use over the past two decades. The interface of public wildlands, primarily National Forests, has combined with increasing wildfire fuel buildup to create massive wildfire hazards in most of the County, and destructive, dangerous wildfires have steadily been increasing in and near the County.

The Custer County Community Wildfire Protection Plan (CWPP) was organized to study countywide wildfire hazards and risks, and to determine community priorities and strategies for action. Statistical and map wildfire hazard rating systems, along with public and agency collaboration and input, were used to determine countywide problems and identify two high priority, large "Landscape Neighborhoods" on the Wildland Urban Interface (WUI) for fuel mitigation action. These are Alvarado and Lake Isabel. Although Alvarado (Sangre de Cristo Mountains) and Lake Isabel (Wet Mountains) are initial targets for fuel mitigation action, it was found that all small-parcel forested areas of the county are high risk.

Extensive public meetings and reviews of the research data and maps of both the social and physical geography of Custer County led to the written Community Wildfire Protection Plan. A two-year educational process has painted a clear picture of what is at stake, and generated detailed discussion of individual landowner and community priorities, strategies for viewing the problem, and some practical means of action.

The results of this process form the recommendations of the Custer County CWPP Action Plan:

1. Create a charter for and appoint a Custer County CWPP Commission (or Council) that includes community leaders, forest practitioners, and local fire and government representatives, which will serve as an advisory board to the Custer County CWPP Coordinator (see below.) The Custer County CWPP Commission could organize as a new 501c3 nonprofit organization or as an affiliate of an existing Custer County nonprofit organization, or as a County agency. The Commission/ Council will research and study the Forest Improvement District Act, non-profit organization designations, state and county regulations, private landowner incentives, and other CWPP implementation ideas to determine the most advantageous structure for the Custer County CWPP Commission/ Council. Recommendations for a permanent organization to drive CWPP action will be presented to the Custer County Commissioners by the end of 2008.

2. Seek grant funding for the County from the Healthy Forests Restoration Act, the BLM, the U.S. Forest Service, and other sources by a specific proposal to initiate the following:
    a. Activate a County CWPP Office with a contracted CWPP Coordinator responsible to the Commissioners. This Office, with help provided by the Custer County Zoning Office and the CWPP Commission (see above), will coordinate and support mailings, information, low-cost high-benefit education, and CWPP actions per the CWPP recommendations and b-f below.
    b. Organize the GIS database and maps, specifically targeting the two priority Landscape Neighborhoods (Alvarado and San Isabel) as well as enhancing general countywide capabilities.
    c. Support writing two specific targeted priority Neighborhood CWPP's by Fall 2008.
    d. Demonstrate cost-share projects in the above two priority areas, in collaboration with U. S. Forest Service, Colorado State Forest Service, and private forestry companies, for initial projects starting in 2008 and completing in 2009 and for program continuation in other years. Also seek federal agency collaboration on adjacent public lands.
    e. Organize specific educational projects including bi-annual mailings and information packets, maintain contractor/volunteer lists, organize and promote free slash and biomass use day at the Landfill, attend public events with educational displays and programs, write newspaper articles, and develop achievement recognition and economic incentives and more.
    f. Organize fire hazard mitigation under and along the main power line to Wet Mountain Valley.
    g. Organize sessions for public comment on the voluntary and regulatory options available to Custer County to create CWPP awareness/action and to gauge community support and reaction.

OUR MOTIVATIONS
FOR A COMMUNITY WILDFIRE PROTECTION PLAN stem from:

--An increase in frequency and size of wildfires in and near Custer County
--An increase in fire hazard and lack of organized prevention and mitigation
--A lack of homeowners providing defensible space surrounding homes

- **PHOTOS OF THE CUERNO VERDE FIRE, WITH A BURNED HOME, ILLUSTRATE SEVERE WILDFIRES CAN AND DO HAPPEN HERE.**

Conclusion: YES, CUSTER COUNTY IS IN DANGER!

Recent wildfire history in our area (red indicates Custer County) …. See Appendix for photos & maps.

Lake Creek –1993– 250 acres – in the Sangres
Cuerno Verde, 2002, 2 homes, 442 acres – in a subdivision south of Rosita
Iron Mountain, 2002, 4,439 acres, 100 homes (in Fremont County, crossing Copper Gulch Road)
Mason Gulch, 2005, 11,357 acres – southeast of Greenwood, off Hwy. 96
Tyndall Gulch, 2006, 541 acres – On Hwy. 96, 7 miles east of Westcliffe
Mato Vega, 2006, 13,820 acres (in Costilla County, southern Sangres)

THE CUSTER COUNTY CWPP

Introduction

What is a Community Wildfire Protection Plan (a CWPP)?

Officially, a Community Wildfire Protection Plan (CWPP) is a study and strategy document developed by a community to address the specific needs, environmental conditions and social dynamics of that community regarding wildfire. Various stakeholders (i.e., people and organizations) of Custer County have helped develop the Custer County CWPP to, foremost, meet the needs and goals of its citizens and to understand, advise and coordinate all interests in achieving those goals. It is a working document, meant to begin a CWPP process for years to come.

The idea for community-based forest planning and wildfire protection is not new. However, the incentive for communities to engage in comprehensive forest planning and prioritization was given new and unprecedented impetus with the enactment of the Healthy Forests Restoration Act (HFRA) in 2003. This landmark legislation includes the first meaningful statutory incentives for the US Forest Service (USFS) and the Bureau of Land Management (BLM) to give consideration to the priorities of local communities as they develop and implement forest management and hazardous fuel reduction projects.

In order for a community to take full advantage of this new opportunity, the HFRA directed that it must first prepare a Community Wildfire Protection Plan (CWPP). Local wildfire protection plans can take a variety of forms, based on the needs of the people involved in their development, and based on the variety of land types in the region. Community Wildfire Protection Plans must address issues such as wildfire response, hazard mitigation, community preparedness, and structure protection—or all of the above.

In the case of Custer County, the CWPP addresses the needs of citizens geographically, on the west and east sides of the Wet Mountain Valley, those in the Wet Mountains southward to San Isabel, and those across the mountains eastward to Wetmore. Needs of residents living on the non-forested Valley floor or in the towns of Westcliffe and Silver Cliff are best included in the general and top priority concern of Custer County infrastructure at risk, specifically the Oak Creek Grade powerline leading into the Valley (see report below.)

The minimum requirements for an official (HFRA funded) CWPP are to address 1) collaboration between local citizens and governmental agencies, 2) prioritized fuel reduction based on at-risk neighborhoods, and 3) treatment of structural ignitability – including recommended measures homeowners can take to reduce the ignitability of structures. These requirements are the emphasis of the Custer County CWPP.

The process of developing a CWPP can help a community clarify and refine its priorities for the protection of life, property, and critical infrastructure in the wildland – urban interface (WUI). It also can lead community members through valuable discussions regarding management options and implications for the surrounding watershed and for restoring healthy forests. The goal of the Custer County CWPP is to open this discussion, set goals, determine strategies, and set a path towards future implementation of forest improvements in our County.

Specific objectives of the Custer County CWPP are to identify: a.) the Wildland Urban Interface (WUI) of the County where residential areas are at high wildfire risk; b.) critical and high priority projects needed to protect community resources, homes, infrastructure, and delivery systems (such as power lines); c.) projects and procedures to improve the safety of forested lands and subdivisions.

Specific expected benefits of the Custer County CWPP are: a.) the official WUI designation resulting from the CWPP may help qualify private lands for cost-share HFRA funding and other positive economic incentives (though more localized, specific CWPP's will also likely be needed); b.) it may help neighboring public land agencies get funding for fuel reduction near private lands; c.) it will provide public land agencies input from the community on priorities and preferred methods of fire hazard treatment; d.) it will provide ways to mitigate the wildfire problems of Custer County; e.) it can heighten county-wide awareness, education efforts, community cooperation, and long-term, local wildfire preparedness.

The CWPP project in Custer County began through a grant request that was reviewed and supported by the Custer County Commissioners and funded by the HFRA through the BLM. The County contracted local forester Len Lankford of Greenleaf Forestry and Wood Products, Inc., in July, 2006 to coordinate the CWPP process through many collaborative meetings and to prepare the written Plan. The Custer County CWPP process was organized to hold a series of public, agency, and other expert and stakeholder meetings to solicit ideas, present data and maps, formulate questions and strategies that need to be addressed by the plan, and to listen to and involve interested volunteers in creating the CWPP and building its continuation and effectiveness in the community. Continuing comments and suggestions are requested and encouraged. Len Lankford may be contacted at 783-4250 (D) or 783-2487 (N), or email at len@greenleafforestry.com.

Summary and Checklist for Developing a CWPP – Steps of the Custer County CWPP Process

These steps were followed in our CWPP process, and are explained below.

Step One: Convene Decision-makers

- Form a core team made up of representatives from the appropriate local governments, local fire authority, and state agency responsible for forest management.

Step Two: Involve Federal Agencies

- Identify and engage local representatives of the USFS and BLM.
- Contact and involve other land management agencies as appropriate.

Step Three: Engage Interested Parties

- Contact and encourage active involvement in plan development from a broad range of interested organizations and stakeholders.

Step Four: Establish a Community Base Map

- Work with partners to establish a baseline map of the community that defines the community's WUI (Wildland Urban Interface) and displays inhabited areas at risk, forested areas that contain critical human infrastructure, and forest areas at risk for large-scale fire disturbance.

Step Five: Develop a Community Risk Assessment

- Work with partners to develop a community risk assessment that considers fuel hazards; risk of wildfire occurrence; homes, businesses, and essential infrastructure at risk; other community values at risk; and local preparedness capability.
- Rate the level of risk for each factor and include this data in the base map as appropriate.

Step Six: Establish Community Priorities and Recommendations

- Use the base map and community risk assessment to facilitate a collaborative community discussion that leads to the identification of local priorities for fuel treatment, reducing structural ignitability, and other issues of interest, such as improving fire suppression response capability.
- Clearly indicate whether priority projects are directly related to protection of communities and essential infrastructure or to reducing wildfire risks to other community values.

Step Seven: Develop an Action Plan and Assessment Strategy

- Consider developing a detailed implementation strategy to accompany the CWPP, as well as a monitoring plan that will ensure its long-term success.

Step Eight: Finalize Community Wildfire Protection Plan

- Finalize the CWPP and communicate the results to community and key partners.
- For further information, a very useful guide to developing a CWPP is available at: http://www.safnet.org/policyandpress/cwpphandbook.pdf.

Summary of the CWPP Process Completed for the Initial Plan, 2006-07

Steps One , Two, and Three: Convene stakeholders, agencies, interested parties.

In the summer of 2006, meetings were held each Tuesday evening for 6 weeks to get input from representatives from as many agencies, landowners, and the general public as possible. Other meetings in the fall explained the base maps and statistical data for landowners in the County. In the spring of 2007, maps were presented with more detailed GIS parcel information in map layers showing aerial photos, topography, access, and wildfire behavior. Public meetings continued in Summer 2007.

Participants and supporters in the CWPP process:
County Commissioners – Dick Downey, Carole Custer, and Kit Shy
Fire Marshall (Sheriff)-- Fred Jobe
Office of Emergency Management – Craig and Christe Feldmann
Fire Protection District – Wet Mountain Valley Fire Protection District was represented (Mick Kastendieck, Fire Chief and others. Wetmore and San Isabel (via Rye) were contacted.
County Road and Bridge -- Dave Trujillo, Road Boss
Colorado State Forest Service -- John Grieve, District Forester
U. S. Forest Service -- Paul Crespin and Mike Smith, Dennis Page (Wildfire Behavior) and Dennis Cleary (GIS).
BLM -- Mike Gaylord, Dave Tolle, Ed Skerjanec and others.
USDA NRCS and Sangre de Cristo RC&D.
Colorado Division of Wildlife -- local wildlife officer.
San Isabel Land Protection Trust -- Brian Riley and Kevin League.
Southern Rockies Conservation Alliance -- John Chapman.

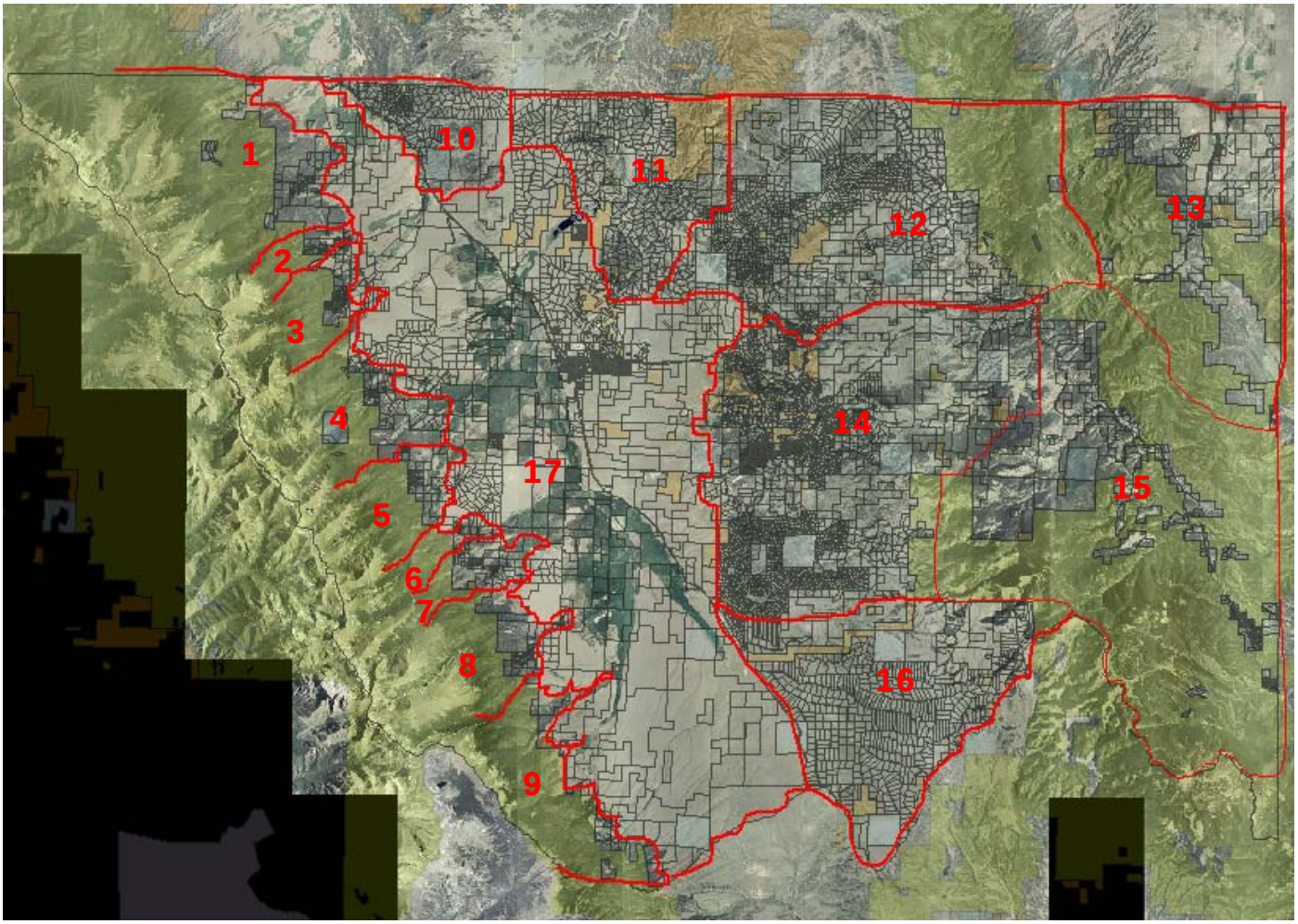
Wilderness Society and Upper Arkansas and South Platte Project --Michael Rogers and Jean Smith
Water Conservation District -- local water commissioner Jerry Livengood
Homeowners associations, Eastcliffe – Charles Bogle; Tanglewood, Wapiti Creek, Alpine Colony, and Taylor Highlands – several members and neighboring landowners.
Horn Creek Conference Grounds
Local Realtors and about a dozen Landowners
San Isabel Electric Association -- Glenn Livengood. Also, Aquilla -- Canon City office (engineer).
Forest management interests and businesses --Len Lankford, Robin Young, Casey Christensen.

Step Four: Decide the scope and coverage of the base map.

The goal was to show the Wildland Urban Interface (WUI) and as much information as possible pertinent to wildfire hazard analysis. To do this, the County was divided into 17 "Landscape Neighborhoods," as shown on the following BASE MAP for the CWPP. Note that the green-tinted areas are National Forest and the orange-tinted are BLM lands. These Neighborhoods are called "Landscape" because they cover very large areas identified by common terrain, watersheds, vegetation, and access. They are identified as Numbers 1-9 being along the base of the Sangre de Cristo Mountains, and then Numbers 10- 16 on the east side of the Wet Mountain Valley. Number 17 is the Valley floor itself. The Sangres (1-9) Neighborhoods are smaller than those on the east side due to lack of access between them and high incidence of WUI.

These regions of the County give a broad view of wildfire protection problems, which are within the broad scope of our countywide CWPP. Future CWPP's must focus on smaller, more localized neighborhoods – right down to next-door neighbors – where specifics can addressed. The concept of "neighborhood" was chosen to emphasize that the CWPP is about protecting people and getting people to work with other people, rather than focusing on the enormous environmental problems we all face in protecting against wildfire.

In other words, we must start small with a focus on more manageable, immediate, neighborhood projects. Then, we can work up to having many such projects ongoing and accomplishing big, county-wide, multi-layered projects.



Custer County landscape neighborhoods, 2007

Note: on the above BASE MAP, parcel densities appear BLACK/ GRAY SHADED. These density areas indicate especially hazardous areas in many parts of the county. Westcliffe and Silver Cliff are the large dark shaded area above the number "17."

The **Landscape Neighborhoods** list is as follows:

Sangre de Cristo:

1. Brush Creek
2. Verdemont
3. Pines
4. Taylor Creek
5. Alvarado
6. Horn Creek
7. Macey Creek
8. Colony
9. Music Pass

Others:

10. Reed Road
11. Bull Domingo area
12. Silver Cliff Heights
13. Wetmore
14. East Hills
15. Wet Mountains – to San Isabel
16. Centennial
17. Main Wet Mountain Valley

Step Five: Develop a Community Risk Assessment

Public meetings were held on November 28, 2006, and June 19, 2007, to review Landscape Neighborhood maps and hazard/ risk assessments, including:

A. Statistical Risk Assessments from county ownership data = 100 points (completed).

B. Wildfire Hazard Rating Form -- Aerial Map/ GIS Fire Behavior Model -- = 100 points.
Combined analysis (from five review meetings in May, 2007.)
Agencies (USFS, BLM, CSFS, DOW)
Fire District(s), County Roads, and County Office of Emergency Management
Local private forestry/ land management providers; San Isabel Land Protection Trust
Landowners & realtors

Total rating (A. + B.) + observations = priority areas.

Details were presented about two Risk Assessment approaches. These were devised as information became available over the course of many months.

A. WILDFIRE HAZARD STATISTICAL RISK ASSESSMENT (from county parcel database)
First potential 100 points of rating.

Completed in February 2007. This part was formulated to generate a maximum of 100 rating points, to be combined with part 2, map review with a fire hazard rating form, to create a maximum total of 200 rating points.

Custer County landowner data and maps were analyzed for pertinent information. After extensive data analysis, a numerical value was applied to several categories and a risk rating calculated. Details are as follows:

The information was derived from the Custer County landowner parcel database of 2003, with updates through 2005. Individual parcels were tagged as much as possible to be treed or not treed (having approximately 10 percent or more forested area), using topographic maps, aerial photos, and county maps. Some subdivisions were classified as totally treed, and thus individual lots were tagged as treed and were not individually checked for accuracy.

The data was divided by what we are calling "Landscape Neighborhoods" of Custer County. These are the 17 areas shown on the charts, and on the base map. Each Landscape Neighborhood was selected by having relatively or most frequently used common access in each area, and other common topographic and vegetative features. Some have only one road in and out.

Each Landscape Neighborhood was also analyzed by parcel sizes – small (0.0 to 34.9 acres), medium (35.0 to 59.9 acres), and large (60 acres and larger), and by a summary of all sizes. Many categories of relevant data were also summarized in each area – see column headings.

The data was numerically analyzed into four Wildfire Hazard Indexes, all of which were designed to range from in a value from 0 to 5 in most cases, with 5 being the greatest risk. These were added to create a Statistical Hazard Rating. Note: some of the parcel statistics may not include accurate data on recreational camp and conference facilities, such as Horn Creek Conference Grounds, where some of the highest residential densities are present. However, the second part of the Hazard Rating, using the Hazard Rating Form, recognized such camps as high community value with higher risk ratings.

Index #1, Density of Improvements in Treed Areas. This index is based on the percent of the number of improved (with structures) treed parcels versus the total number of treed parcels, calculated as the decimal proportion of improved treed/total treed parcels times five. Therefore, this Index is a parcel-count measure that indicates a relative density of improvements in the treed area of each Landscape Neighborhood by number of parcels involved. A higher number indicates higher risk due to more structures being concentrated in the treed (forest) area.

Index #2, Average Size of Structures on Treed Areas. This index is based on the average size of each improvement on treed parcel. It is calculated as the square feet divided by 500. The higher the number means the larger average size of structures, and thus indicates higher property values at risk.

Index #3, Proportion of Treed Acres Having Improvements. This index is based on the proportion of land areas in improved treed acres versus total treed acres in each Landscape Neighborhood. It is calculated by improved treed acres divided by total treed acres times five. This index is a land-area based measure of density of improvements within the forested area, and a higher number means more percent of the forest area is involved with structures and thus there is more concentration of forest-structure value combinations at risk.

Index #4, Average Size of Treed Parcels. This index is based on the average size of each treed parcel in acres. The index is calculated at the inverse of acre size times 20, or 1/ "avg. acre parcel" size times 20. Very small lots rated as high as 8.3 on this scale, while 35 acre and larger parcels rated 0.6 and under. In this index, very small parcels are assumed to have much higher risks than larger ones due to high individual base parcel values per acre, even if vacant of structures. Risk may also be considered to be subjectively higher due to complications of fire hazard mitigation caused by having so many landowners involved in decision-making, contacts, and other fire hazard problems.

The total rating of each parcel size class was determined, and then added into a Summary for all parcel sizes and expanded (multiplied by 6) to near a 100-point total scale. The data shows clear implications of the Landscape Neighborhoods most at wildfire risk from the statistically determined indexes.

This information formed the basis for further discussion to prioritize fire hazard ratings within Custer County. The summary page of the statistics shows two resulting columns indicating "Order" or ranking of Hazard Priority (1 to 4) for the Landscape Neighborhoods. These are combined with other Wildfire Hazard Rating criteria (see #2 below) for the final community determination of priorities.

Small Parcels were found to most significantly hold the highest ratings, compared to Medium and Large parcels. Therefore the statistics were selected to analyze, compare, and rate neighborhoods based on only the Small Parcel data.

Small parcels

SUMMARY - CUSTER COUNTY NEIGHBORHOODS															
Feb. 5, 2007 index analysis	A. Small Parcels (0 to 34.9 acres)														
WILDFIRE HAZARD					INDEX #1					INDEX #2					INDEX #3
STATISTICS	Number of Parcels		# of	# Imprvd	Impr. Percent	Total	Tr Parcel	Avg Sq Ft	Avg Sq Ft	treed parc	Total	Total Treed	Improved	Improved	treed
					of treed parc.				/ Impr.	RATING=					% of ac
Region	Total	Imprvd	Tr Parc.	Tr Parc.	Rating=%*5	sq. feet	Tot. Sq.Ft	/Imp Parcel	TreedParc	sqft/500	Acres	Acres	Acres	Treed Ac.	Rating=%*5
Sangres (all of West Region, north to south)															
Brush Creek	78	51	78	51	3.3	42653	42653	836	836	1.7	540	540	332	332	3.1
Verdemont	110	70	110	70	3.2	60689	60689	867	867	1.7	329	329	218	218	3.3
Pines	123	41	123	41	1.7	71184	71184	1736	1736	3.5	437	437	142	142	1.6
Taylor Creek	58	24	58	24	2.1	35307	35307	1471	1471	2.9	393	393	182	182	2.3
Alvarado	119	88	119	88	3.7	78559	78559	893	893	1.8	362	362	280	280	3.9
Horn Creek	55	31	55	31	2.8	33308	33308	1074	1074	2.1	190	190	97	97	2.6
Macey	58	44	58	44	3.8	26602	26602	605	605	1.2	334	334	297	297	4.4
Colony	61	32	61	32	2.6	23793	23793	744	744	1.5	250	250	139	139	2.8
Music Pass	16	9	16	9	2.8	7042	7042	782	782	1.6	78	78	35	35	2.2
Sangres Total	678	390	678	390		379137	379137	972	972		2913	2913	1721	1721	
					0										
Central															
Valley	1174	496	7	2	1.4	549588	680	1108	340	0.7	4257	72	13	13	0.9
North															
Reed Road	93	32	92	32	1.7	46184	46184	1443	1443	2.9	800	794	293	293	1.8
Bull Domingo area	643	156	31	2	0.3	142018	2360	910	1180	2.4	1744	413	311	17	0.2
North Region Total	736	188	123	34		188202	48544	1001	1428		2544	1207	604	309	
Northeast															
Silver Cliff Heights &east	922	405	917	405	2.2	398672	398672	984	984	2.0	9242	9181	4039	4039	2.2
East															
East Hills	2046	839	2021	832	2.1	1051353	1042080	1253	1252	2.5	11700	11522	4572	4507	2.0
Wetmore	195	138	178	124	3.5	166544	150803	1207	1216	2.4	1074	902	589	589	3.3
East Region Total	2241	977	2199	956		1217897	1192883	1247	1248		12774	12423	5160	5096	
SOUTHEAST															
Wet Mountains	628	293	626	293	2.3	232099	232099	792	792	1.6	1547	1517	835	835	2.8
SOUTH															
Centennial Area	98	21	0	0	#DIV/0!	22347	0	1064	#DIV/0!	#DIV/0!	1113	0	281	0	
OTHER NEIGHBORHOODS															
Government lands															
(unidentified)	64	24	20	6	1.5	23417	0	976	0	0.0	627	298	124	124	2.1
Total, other:	64	24	20	6		23417	0	976	0		627	298	124	124	
TOTALS	6541	2794	4570	2086		3011358	2252014	1078	1080		35016	27611	12778	12138	
OVERALL TOTAL STATISTICAL WILDFIRE HAZARD RATING ARE SUM OF (RATINGS X TREED ACRES) FOR EACH NEIGHBORHOOD															

This chart shows hazard ratings for SMALL PARCELS ONLY of all Landscape Neighorhoods, by Index 1, 2, and 3 (out of four total). Next page shows Index 4, and Total Rating.

Small parcels -- totals

					SUMMARY - CUSTER COU
					Feb. 5, 2007 index analysis
		INDEX #4		weighted:	WILDFIRE HAZARD
Avg.Ac./	Avg.Ac/	ACRE SIZE	TOTAL	RATING	STATISTICS
		RATING		TIMES	
Parcel	Trd Parc.	=1/AC*20	RATING	TOT.TR.AC.	Region
					Sangres (all of West
					Region, north to south)
7	7	2.9	10.9	5891	Brush Creek
3	3	6.7	14.9	4909	Verdemont
4	4	5.6	12.4	5418	Pines
7	7	3.0	10.3	4037	Taylor Creek
3	3	6.6	15.9	5764	Alvarado
3	3	5.8	13.3	2529	Horn Creek
6	6	3.5	12.9	4313	Macey
4	4	4.9	11.8	2940	Colony
5	5	4.1	10.7	837	Music Pass
4	4			36637	Sangres Total
					Central
4	10	1.9	5.0	359	Valley
					North
9	9	2.3	8.8	6974	Reed Road
3	13	1.5	4.4	1812	Bull Domingo area
3	10				North Region Total
					Northeast
10	10	2.0	8.4	76886	Silver Cliff Heights &east
					East
6	6	3.5	10.0	115533	East Hills
6	5	3.9	13.1	11837	Wetmore
6	6				East Region Total
					SOUTHEAST
2	2	8.3	14.9	22646	Wet Mountains
					SOUTH
11	#DIV/0!			0	Centennial Area
					OTHER NEIGHBORHOODS
10	15	1.3	4.9	1469	(unidentified)
10	15				Total, other:
5	6				TOTALS

This chart shows Index 4 and the total Index Fire Hazard Ratings for SMALL PARCELS ONLY of each Landscape Neighborhood.

Highest ratings are 1. Alvarado, 2a. Wet Mountains, 2b. Verdemont.

Statistics

SUMMARY - CUSTER COUNTY NEIGHBORHOODS				PRIORITY ORDER SUMMARY									
Feb. 5, 2007 index analysis	TOTAL, ALL SIZE PARCELS (with known data)												
WILDFIRE HAZARD				rate*ac sums			PARCEL STATISTICS						
STATISTICS	RATING		TOTAL	SUM OF			Sum of HAZARD RATINGS			PARCEL STATISTICS			
	TIMES		TREED	THREE	avg.		By parcel size class			EXPANDED RATING (X 6)			
Region	TOT.TR.AC	ORDER	ACRES	PRCL.SIZES	per acre	ORDER	SMALL	MEDIUM	LARGE	SMALL	order	MEDIUM	order
Sangres (all of West													
Region, north to south)													
1. Brush Creek	**41805**		4621	46296	10.0	4b	10.9	10.1	9.9	**65**		61	
2. Verdemont	**9267**		855	9844	11.5	1	14.9	7.5	11.2	**90**	**2a**	45	
3. Pines	**16304**		1787	16675	9.3		12.4	8.6	8.0	74		52	
4. Taylor Creek	**39981**		4404	39783	9.0		10.3	11.3	5.7	62		68	2
5. Alvarado	**17283**		1689	19245	11.4	2	15.9	12.0	8.0	**95**	**1**	72	1
6. Horn Creek	**16660**		2247	18061	8.0		13.3	6.3	11.6	80		38	
7. Macey	**14957**		1690	16891	10.0	4a	12.9	10.5	8.0	**78**	**3**	**63**	
8. Colony	**23294**		3113	28746	9.2		11.8	11.1	8.8	71		67	3a
9. Music Pass	**13474**		2507	10303	4.1		10.7	8.1	3.4	64		49	
Sangres Total	193025	3	22913	205843	9.0		0.0	0.0	0.0	0		0	
Central													
17. Valley	**21083**		2739	18617	6.8		5.0	10.0	5.8	30		60	
North													
10. Reed Road	**62008**		6533	63601	9.7		8.8	11.0	5.1	53		66	
11. Bull Domingo area	**118145**	4	18618	143734	7.7		4.4	11.1	5.0	26		67	3b
North Region Total													
Northeast													
12. Silver Cliff Heights &eas	**259519**	2	41242	360016	8.7		8.4	9.9	8.3	50		60	
East													
14. East Hills	**267257**	1	33097	300676	9.1		10.0	10.1	8.0	60		61	
13. Wetmore	**99765**		13070	98071	7.5		13.1	8.7	6.7	79		52	
East Region Total													
SOUTHEAST													
15. Wet Mountains	**49580**		5214	53984	10.4	3	14.9	7.6	8.8	**90**	**2b**	45	
SOUTH													
16. Centennial Area	**455**		40	255	6.4		0.0	6.4	0.0	0		38	
OTHER NEIGHBORHOODS													
GOVT LANDS	**#DIV/0!**		**188385**	0	0.0		0.0	0.0	0.0	0		0	
(unidentified)	**35466**		12152	34879	2.9		4.9	5.2	2.7	30		31	
Total, other:													
TOTALS		TOTALS	344004										

This chart shows Parcel Statistics for Hazard Ratings, and Expanded Rating (100 point scale). Highest Fire Hazard Ratings were for SMALL PARCELS, in this order: 1. Alvarado 95 points, 2a. Wet Mountains 90 points, 2b. Verdemont 90 points.

Conclusion: The land parcel statistical analysis indicates SMALL PARCEL areas of the County are most at risk. Priority areas for treatment are those with highest ratings in this parcel size category.

B. WILDFIRE HAZARD RATING FORM (map review and analysis.) Second potential 100 points of rating.

After the statistical analysis, GIS maps and layers were acquired from several project partners to cover the whole county with land parcel data, such as plat layouts, topography, aerial photography, tree cover, fire behavior model, and roads. This GIS information was put into a PowerPoint presentation and shown in detail for an intensive total-county analysis, neighborhood by neighborhood, by five agency and community review groups in separate meetings in May, 2007.

A revised assessment form was used, and input was based on the GIS maps and personal observations and professional experience of the review teams. See **Appendix** for the **Wildfire Hazard Rating Form** obtained from the Colorado State Forest Service and modified for a visual and community-knowledge analysis of each Neighborhood. The combined analysis of the review teams formed one-half of the full wildfire hazard rating, to be combined with the above other one-half, being the county land parcel statistical data analysis.

The reviews were summarized and are presented in the following table.

WILDFIRE HAZARD RATING FORM ---- CUSTER CWPP 2007																				
SUMMARY																				
Rating Group		1	2	3	4	5		6	7	8	9	10		11	12	13	14	15	16	
WMtnFD		69	77	58	60	69		70	70	93	69	63		56	80	80	64	89	47	
BLM-USFS		73	76	69	63	72		64	64	95	69	68		60	87	85	78	102	46	
SanIsabelTrst		75	71	63	66	66		62	62	81	70	62		55	77	76	67	74	48	
Utilities-Emerg-Foresters		83	77	73	72	80		70	70	87	78	78		59	85	89	68	88	51	36
Realtors		75	74	59	65	73		72	72	83	82	83		54	86	87	69	86	49	
	average	75	75	64	65	72		68	68	88	74	71		57	83	83	69	88	48	
	order	3	3							1					2	2		1		

By the HAZARD RATING FORM map review, highest rated areas (both priority order #1) were Landscape Neighborhoods #8 Colony and #15 Wet Mountains – San Isabel. The ratings shown are for all parcel sizes in each Landscape Neighborhood.

A + B. COMBINED HAZARD RATINGS -- Statistics and Rating Forms

Combining the county statistical data with the review group hazard form ratings, an overall rating was calculated (see table below.) Six overall priority "Landscape Neighborhoods" were ranked: 1. Wet Mountains, 2. Verdemont, 3. Colony, 4. Alvarado, 5. Brush Creek (tied with Silver Cliff Heights), and 6. Reed Road. The first five are in the Wildland Urban Interface (WUI), being adjacent to or surrounded by National Forest. Plus hazards grew in 2007 in #1. Wet Mountains due to many blowdown areas (see maps of USFS Greenhorn Mountain Blowdown in Appendix.)

It is important to note that several of the combined ratings were only a few points apart, and that all the "landscape neighborhoods" of the County had portions showing extreme wildfire risk. All are identified in this CWPP, with suggested strategies for each area shown with the maps in the Appendix.

Overall Ratings & Priorities

SUMMARY - CUSTER COUNTY NEIGHBORHOODS											
Feb. 5, 2007 index analysis	avg/ac rate		Rating								
WILDFIRE HAZARD	all size		Form		OVERALL RATING						
STATISTICS	Parcels		ALL SIZES		Rating						
AND RATING FORM RESULTS	(x6) rating	order		order	Total	order			TOTAL TREED ACRES		
Region	"A"		"B"		"A" + "B"				SMALL	MEDIUM	LARGE
Sangres (all of West											
Region, north to south)											
1. Brush Creek	**60**	**4**	**75**	**3**	**135**	**5**	**WUI**		540	648	3432
2. Verdemont	**69**	**1**	**75**	**3**	**144**	**2**	**WUI**		329	257	269
3. Pines	56		64		120				437	685	666
4. Taylor Creek	54		65		119				393	2299	1712
5. Alvarado	**68**	**2**	72		**140**	**4**	**WUI**		362	726	600
6. Horn Creek	48		68		116				190	1589	468
7. Macey	**60**	**4**	68		128				334	696	660
8. Colony	55		**88**	**1**	**143**	**3**	**WUI**		250	252	2611
9. Music Pass	25		74		98				78	243	2186
Sangres Total	54								**2913**	**7395**	**12605**
Central											
17. Valley	41				41				72	649	2018
North											
10. Reed Road	58		71		**129**	**6**			794	4635	1104
11. Bull Domingo area	46		57		103				413	8239	9966
North Region Total											
Northeast											
12. Silver Cliff Heights &east	52		**83**	**2**	**135**	**5**			9181	9817	22244
East											
14. East Hills	55		69		124				11522	5724	15852
13. Wetmore	45		**83**	**2**	128				902	2291	9877
East Region Total											
SOUTHEAST											
15. Wet Mountains	**62**	**3**	**88**	**1**	**150**	**1**	**WUI**		1517	913	2784
SOUTH											
16. Centennial Area	38		48		87				0	40	0
OTHER NEIGHBORHOODS											
GOVT LANDS	0								0	0	0
(unidentified)	17								298	601	11253

TOP PRIORITY AREAS

Density areas in these landscape neighborhoods:

1. Wet Mountains: Hwy 165

2. Verdemont

3. Colony

And: 4. Alvarado, 5. Brush Creek, 6. Reed Road

Step Six: Establish Community Priorities and Recommendations

The hazard ratings and detailed analysis of the Landscape Neighborhoods led to the following three county-wide, community priorities and associated recommendations:

1. WILDFIRE CONDITIONS ARE EXTREME AND MORE PEOPLE ARE AT RISK

Especially in our numerous older subdivisions (generally with small parcels) and recreational camps that have:

- More highly ignitable structures
- Higher density of structures
- Increasing numbers of structures with increasing summer and year-round residents
- More retiree residents with possible handicaps, difficult access, and remote communication
- High, increasing, and concentrated short-term visitor use of recreational camps and forests
- One-way in and one-way out access with few fire protection, safety, or escape routes
- Narrow and sometimes-steep roads
- Dense forest and brush vegetation, 100 years of accumulating, slow-decaying biomass
- Areas close to or downwind of continuous and overgrown forests
- Lightning-prone areas associated with lightning-ignitable vegetation and structures .

ALL THESE CONDITIONS WARRANT COMMUNITY-WIDE EFFORT TO UNDERSTAND AND CORRECT / MODIFY.

-- Recommendations: a. Educate landowners about hazards, the reasons they exist (lack of fire, growth, slow decay, lack of use) and encourage action now and annually. b. Organize access and fuel modification projects in the Wet Mtn/San Isabel and Alvarado high-density neighborhoods. c. Identify the risk to firefighters from un-mitigated structures, access, and vegetation and warn owners of their resulting emergency status resulting from non-defensible property.

2. IMPORTANT COUNTY INFRASTRUCTURE IS AT RISK

Critical Community Infrastructure is in danger, specifically the **Oak Creek Grade Powerline**

This is the community's highest wildfire-hazard priority, as most Valley residents get electrical power from this single line

Long-term fuel modification strategies are obviously needed for the powerline:

A. Under it (on utility legal easement)
B. Adjacent properties
C. Continuous fuel valleys or fuel "chimneys"

-- Recommendations: a. Organize special efforts protecting the main Valley powerline. b. Enlist private/ public utility providers and the Public Utilities Commission (P.U.C.) in the planning and mitigation process.

3. OTHER HIGH-VALUE COMMUNITY ASSETS ARE AT RISK

Recreational camps and campgrounds

Communication towers

Deer Peak, Lookout Mountain, Verdemont Road

Watersheds, water resources, and important downstream water supply treatment and delivery improvements, water storage facilities, property improvements, and other resources

Wildlife / wildlife corridors

Forests / wilderness and ecological environments (see USFS Wildland Fire Use Policy).

-- Recommendations: Organize special high-priority protection for many valuable community resources at risk, especially camps, communication towers, and water systems. Include defensible space, improved access, and mapping of structure locations for fire district. Also include mapping critical environmental features to protect.

Step Seven: Develop an Action Plan and Action Assessment Strategy

A public meeting was held on July 17, 2007, to review priorities, and to plan risk and hazard strategies.

Strategies were decided to coincide with the Risk/Hazard Assessment and Priorities.

Highest benefit at lowest cost actions for broad private and public application were emphasized.

Included community input to National Forest, BLM, and private land.

Communication with the federal agencies was especially timely due to the imminent U. S. Forest Service, Pike-San Isabel National Forest planning cycle.

These are the Actions discussed at the public strategy meeting:

Action #1. AGREE THERE ARE COMMON CONCERNS -- FOR ALL AREAS OF COUNTY

We have common concerns and threats that link all interests of the County

Prevention /protection plans are needed that are useful for all neighborhoods

Separate mitigation implementation plans are needed for each small neighborhood

Strategies need to be labor and task oriented to increase participation and enthusiasm. Economics is only one aspect.

-- Recommendation: Have the CWPP continuing process address strategies that can be used by every landscape neighborhood, and then specifics tailored to each smaller neighborhood.

Action #2. EACH LEVEL OF COMMUNITY ORGANIZATION NEEDS TO TAKE ACTION

County

Fire Department

Landscape neighborhoods

Small neighborhoods/ subdivisions

Smallest scale action may be the most practical approach

Apply actions by individuals to help fix larger problems

- Especially apply wildfire hazard reduction standards to new homes and driveways by active educational effort and possible inclusion in permits/ regulations – including specific improvement measures, such as Class A roofing, minimum driveway width and maximum grade, and fuel modifications around structures.

-- Recommendation: Involve each part of our community, from County authority down to the smallest scale of neighborhoods.

Action #3. SET FIRST PRIORITIES FOR ACTION BY LIFE THREATS, as follows:

1. Access and escape/ evacuation routes (trim, widen, and improve roads and driveways)
2. Ability to fight fire (water sources, fuelbreaks, individual homesite defensible space, fire dept. preparedness)
3. Imminent fire danger and severity (localized extreme fuel loading, high winds)
4. Location, type of materials and orientation of structures.
5. Emergency contact system for people in wildfire zones.

-- Recommendation: Evaluate most important of these for each neighborhood.

Action #4. DETERMINE PRIORITIZED FUEL TREATMENTS, WITH LEAST COST AND MOST PROTECTION FIRST, using these recommendations:

a. Thin/ otherwise reduce vegetation 50-100 feet (150 feet on steep slopes), on both sides of roads in forests

b. Restore natural and new meadows, starting with small tree and brush reduction first

c. Create fuel breaks using "Zone 2" Defensible Space (see Note) treatments for fuel reductions on perimeters of dense forest and dense structure subdivisions and on both sides of main powerlines, overlapping property boundaries in cooperative projects.

d. On the Sangres, thin a buffer along the boundary of National Forest with private lands uphill at least 100 yards or to the Rainbow Trail (similar to c. above), preferably in conjunction with similar projects downhill 100 yards on private lands (total width of fuel break 600 feet.)

e. Create individual Defensible Space and treated structure ignition "Zones 1 and 2" (see Note) around homes/ structures (these work, as evidenced in many recent Colorado wildfires!)

Note: See CSU- Cooperative Extension Publication No. 6.302, Creating Wildfire-Defensible Zones **(in Appendix).** Understand and follow the descriptions of the three defensible space management zones, including detailed forest treatment prescriptions, beginning with Zones 1 and 2 (shown in this publication) nearest homes, and extending into Zone 3 at a distance from homes.

-- Recommendation: Pick most effective and practical fuel treatments for each neighborhood local CWPP, and determine their priorities -- some as neighborhood community projects and others as individual owner projects.

Action #5. USE PREFERRED FUEL TREATMENT METHODS AND TYPES

a. Thin for aesthetic forest vegetation treatments, rather than clearing tall forests, and more economically utilize forest materials to lower treatment costs.

b. Remove, chip, or pile-burn small trees and brush for aesthetic fuel breaks and ladder fuel reduction, and for improved escape routes and safe zones

c. Control brush, sprout, and tree regeneration by prescribed burns, mechanical cutting or mowing, and possibly environmentally safe chemicals

d. Allow controlled wildland fire use on National Forests, especially Wilderness Areas to lessen massive fire hazard threats to "landscape neighborhoods" and restore ecological balance.

-- Recommendation: Consider these preferred treatments as projects are designed.

Action #6. ENCOURAGE TREATMENT OF STRUCTURE IGNITABILITY, by these recommended priorities:

1. Roofs – materials and treatments, on new structures and changes + vents/ valleys / gutters
2. Walls – materials and treatments for exterior siding to be less flammable
3. Debris close or on structures – educate and remind owners about annual maintenance

-- Utilize publication "Wildfire and Your Forest Home – Reduce the Risk" by Wet Mountain Fire Protection District (in Appendix.)

4. Projections – stairs, decks, porches made of flammable material (wood) and in direct contact with vegetation of any kind, create a link between wildland fuel and homes. Break this link with concrete pads, rock, non-flammable landscaping.

-- Recommendations: Treat debris annually, and modify roofs and walls as needed. Use non-flammable material and landscaping to separate structures from wildland fuels. Educate builders and landowners on new construction standards to mitigate structural ignitability.

Action #7. DEVELOP FIRE-FIGHTING WATER SOURCES, especially near or in dense land parcel neighborhoods.

1. Access to ponds by fire department trucks
2. Install draft (water pumping) facilities
3. Mapping of installed facilities and access for fire department
4. Maintain each year all installed facilities
5. Identify and helicopter-use draft ponds, including mapping locations and capacities

-- Recommendation: Include these considerations in each neighborhood's local CWPP.

Action #8. CONTINUE THE CWPP PROCESS IN THE FUTURE.

--Initiate a Custer County CWPP office or a private CWPP management/ coordination contract.

--Involve the Zoning Office and CSU Extension for landowner information.

--Actively coordinate, organize, monitor, and map wildfire protection plans and activities with the Colorado State Forest Service and private forestry companies.

-- Assist private landowners with comprehensive services addressing all aspects (organizing and action) of actual property and forest treatments/ clearing/ cleaning, fuel mitigation, fire breaks, fuel barriers, etc., including most effective economics through use of materials and incentives for both landowners and forest product companies.

--Notify authorities and participants of significant CWPP changes, upgrades, and advances toward prevention and protection as they happen.

--Establish a date by which annual review of the CWPP will be completed (suggested is October 1st of each year.)

-- Recommendations: Seek HFRA and other grant funding to initiate such an effort in Custer County. Also, seek diverse funding and spread the use of funding in a diverse manner.

Action #9. COORDINATE SMALLER NEIGHBORHOOD, OR LOCAL CWPP'S

Organize associations for small neighborhood local CWPP's, using GIS data, and facilitate cost share grant applications with the Colorado State Forest Service in collaboration with private foresters.

Do annual updates with County landowner data/ parcel maps, and other GIS map data from the USFS and BLM.

Join adjacent subdivisions, private / public forest management, and fuel reduction projects for maximum results. Map results on GIS each year and present progress report to the public.

-- Recommendation: Develop smaller neighborhood CWPP's to organize practical action on the ground.

Action #10. FURTHER USE GIS MAPPING DETAILS AND DATA TO ORGANIZE AND TRACK CWPP IMPLEMENTATION

Identify parcels with defensible space

Encourage multiple parcels in local neighborhoods to combine defensible space projects for lower costs

Plan and GIS map subdivision-wide projects

- Water storage + Evacuation routes
- Common or jointly owned area thinning and care
- Perimeter fuel reductions
- Updated lightning-strike data including positive-lightning ignition risk.

-- Recommendation: Use GIS data to identify neighborhoods and to monitor implementation success. Use the computer and GIS software obtained with grant funding for the Custer County Zoning office as a result of the Custer County CWPP process in 2007.

Action #11. DEVELOP A FOREST FUELS MITIGATION CONTRACTOR AND SERVICE GROUP LIST

Maintain by the County a list of fire hazard mitigation companies, keeping public informed that fire hazard mitigation is important and that the list is available at the Zoning Office.

Voluntary participation listing updated and distributed by the Zoning Office.

Include important business information, including work force and equipment and services of each business.

Encourage private project coordination and activities by service groups related to fire mitigation.

-- Recommendation: Use the Contractor / Service Group List to encourage such businesses and to help connect businesses, service groups, and potential customers seeking fire hazard mitigation services.

Action #12. HAVE THE COUNTY USE MANY METHODS TO PROMOTE AND MONITOR ACTION

Recognition program fire hazard mitigation projects in the County by:

Individuals
Companies
Organizations
Agencies

Recognize achievements of public and private forest stewardship plans and map results.

Track landfill records of slash disposal loads and volumes, with optional survey of source projects to put into GIS maps and data. Publicize achievements and biomass use potential.

Include landowner educational and interest surveys in tax notice and assessment mailings, and include in zoning permit package. Also, have these available in realtor, government, and Chamber of Commerce offices.

Adopt County minimum standards for requirements/ inspections/ plans/ or certifications for wildfire defensible space, driveway, and perimeter treatments for new homes and new/ existing subdivisions as part of zoning permits and plat approvals, and possibly adopt a "pest ordinance" (see below) regarding implementation of critical forest health and wildfire hazard mitigation projects.

Evaluate forested land parcels and notify annually (in tax valuation notice mailings) owners of non-defensible properties of their emergency status regarding fire fighter safety and response. Example: "Your property / subdivision has been identified as high risk for emergency wildfire protection. Please call for an explanation and information package on mitigation. Let us know of status changes and request for re-evaluation. This information is maintained for emergency responders."

-- Recommendations: a. Implement educational and achievement recognition programs by Custer County government. b. Adopt minimum wildfire fuel, forest health, and access treatment standards for new construction and subdivisions. c. Adopt a system identifying highest-risk parcels and notifying owners.

Action #13. PROMOTE LONG-TERM FOREST STEWARDSHIP AND APPROPRIATE BENEFICIAL USE OF FOREST RESOURCES

1. Encourage long-term sustainable forest and vegetation maintenance and beneficial product use, tied to forest problem backlogs, forest maintenance, and forest volumes and annual growth

A. Include events to highlight recent blow-down and insect invasions and need for use (see map in Appendix showing USFS Greenhorn Mountain Blowdown areas of 2007.)

B. Engage youth organizations in on-going programs for fundraising projects and reward-oriented efforts.

C. Build community and business awareness of the opportunity and need for sustainable woody biomass use as solid wood forest products and as wood fuels.

2. Use local CWPP's to build a combined forest master plan for the Sangre de Cristos, and other forest areas of the County – planning 10 to 100 years out, including:

A. Inventory of forest conditions and growth across public-private boundaries

B. Determining overall goals with allowance for owner variations

C. Recommended periodic forest treatments and annual cooperation effort

D. Coordinated action by managing agencies and landowners through use of agreed-upon, planned priorities, and monitoring and tracking of such results as to their reaching desired conditions

E. Facilitating and encouraging more commercial, economic, ecological, and sustainable high-value solid-wood forest products and high-volume / low-value woody biomass uses (such as for energy) through coordinated interests of small business, forest manager, forest owner, county government, public agency, schools, and the community

F. Identify and enlist users for fuel harvested by mitigation efforts

- Note: Initial forest statistics from 1983 USDA Forest Service data (see "Colorado's Southern Front Range: Forest Statistics for State and Private Land," 1983, by Roger C. Conner and William T. Pawley, USDA FS Resource Bulletin INT-43) for Custer County private forest lands: 76,721 acres. Standing forest biomass volume: 87,736,000 cu. ft. (about 877,360 cords, or 11.44 cords per acre). Annual growth 1.9% : 16,800 cords (approximately 0.22 cord/ acre, or 8.8 cords annual growth per 40 acres of trees). Predominant tree diameters needing treatment are under 12 inches (small diameter trees). Estimated current economically beneficial use (per Len Lankford, local private foreseter): less than 1,000 cords per year (or 6% of private forest growth.)

- Further information from the USFS San Carlos District obtained in December, 2007, confirms there are overwhelming volumes of forest growth accumulating on National Forest lands in Custer County. Mike Smith, forest planner, (per email dated 12/18/07) did some very rough calculations of forestland and its wood fiber accretion along the base of the Sangres in Custer County, between the National Forest Boundary and the Rainbow trail. These calculations indicate there are approximately 6770 acres of National Forest land in this zone, with 5315 acres in forest, and it is growing approximately 50 to 55 cubic feet of wood fiber per year. This means an accretion of 292,325 cubic feet per year, with historical removal since 1997 being a rate of only 30,000 cubic feet per year. This removal rate is only 10% of growth in this zone, and the data confirms extreme accumulations of fuel are occurring on National Forest Lands. Statistics for other public land forests in Custer County are expected to illustrate even more long-term forest inventory vs. use problems.

- Therefore fuel accumulating by net annual growth is extreme and compounding each year on both private and public lands. Local forests also commonly have 100 years of growth backlog. It is important that professional localized Forest Stewardship Management Plans and localized neighborhood community wildfire protection plans include similar inventory statistics for management planning in order to balance use with growth on both private and public lands.

-- Recommendation: Use a long-term forest master plan to balance forest fuel accumulation and reduction needs with economic uses of materials.

Action(s) #14. FURTHER RESULTS OF THE PUBLIC COLLABORATIVE CWPP STRATEGY MEETING ON JULY 17, 2007 (in attendance were landowners, BLM forester, private foresters, fire department member, and two county commissioners):

1. For the main powerline to the Valley, and other powerlines

First: a. County needs to get involved with Power Company to emphasize importance

b. Public communication to Power Company on importance

c. Educational effort for landowners with right-of-ways or adjacent to powerlines

Then:

a. Put a CWPP in place for electric lines with utility and landowner cooperation

b. Maintain fuel reduction under and near lines, and include with regular pole inspection

c. Investigate re-establishment of a loop (or backup) for electrical transmission to the Valley via Cotopaxi or Texas Creek

2. Collaborative fuel reduction and full CWPP projects on two WUI areas:

a. Wet Mountains (Hwy 165--San Isabel area) and

b. Alvarado

These two areas achieved public-meeting **CONSENSUS AS THE TOP TWO PRIORITY, HIGH-RISK AREAS**, especially because they are in critical WUI areas, and projects there will be highly visible and will be the best candidates to show results of community and agency cooperation. **SPECIFIC FEDERAL ASSISTANCE ON ADJOINING AND NEARBY FEDERAL LANDS IS REQUESTED.**

3. Associate wildfire risk with forest health, beetle, and large tree mortality areas (all showing poor forest management):

Publicly review, for educational, serious consideration, and possible implementation purposes, a "Pest Ordinance" that the County could adopt for all parcels according to State Law, especially for current and serious problems. This type of ordinance is used in other counties, for example, to require removal of trees infested with live mountain pine beetles, with the penalty for no action being that the county gets the work done and bills the landowner, placing a lien against the property if unpaid. Could this be extended to critical fire hazard removal, such as areas of dead trees or dense "ladder" fuels?

Voluntary compliance is recommended at this time. Voluntary or mandatory may ultimately be a question decided by a growing importance of forest issues in our community, and by the degree of action inspired by a large educational effort. Very effective education may result from educational "warnings" or sending notices of poor ratings for emergency preparedness (see #12 above.) Even this approach may be controversial in our community, so should not be heavy-handed or implemented without public review and consensus.

4. Target high-risk landowners – send letters with statistics, maps, and information. See #12 above.

5. Use available BLM funding and WMV Community Foundation for community education and for creating neighborhood CWPP's, in cooperation with private foresters and the Colorado State Forest Service. Also see #9 and #10 below.

6. Landowners should participate in the process by identifying FS and BLM lands that are high risk to private lands.

7. Include a lightning-strike study and map in the CWPP for ignition likelihood, including areas prone to more ignition-hazardous positive lightning.

8. Activate a Countywide, County-sponsored, comprehensive, full-community educational campaign, funded initially by government grants and private donations and eventually by new funding mechanisms (see #9 and #10 below for options), as follows:

(Note: The consensus of meeting participants was that an educational campaign, with economic incentives, is the most feasible and economic way to get action.)

a. Identify completed projects to show what can be done, featured with tours

b. Newspaper information inserts, locally oriented, in collaboration with USFS, BLM, CSFS, and private foresters

c. Series of stories and information articles, each year – spring, summer, fall. Include publicity about all facets of the plan and its modes of action.

d. Use a PR low-cost award system by County for fire hazard reduction completions (certificate, plaque, public recognition and events). Use Fire wise Program materials.

e. Link to any other building & home construction code or educational campaign of County and add to educational materials/ courses in the Custer County School

f. Include flyer/ info. in every County mailing (taxes due, assessments) and list ideas, incentives, and rewards for fire hazard reduction projects.

g. Use the existing "Brighten the Sangres" trail cleanup event idea for high-risk area community projects. This could start with an annual event to clean the Oak Creek Grade utility right-of-way, complete with community potluck, recognition, etc..

h. Arrange meetings with power-company officials to promote "clean up" of 1 mile, and bring neighbors for a walk / tour for site selection and planning.

i. Organize an "Adopt a County Road" program that includes fire issues as well as roadside cleanup projects.

j. Tour old fires, meet at local fire stations, include fire dept. and equipment.

k. Set up information booths at Chamber of Commerce, Fire Dept., Courthouse, Library, Realtors, School, U. S. Forest Service office, and forestry businesses.

l. Create and maintain a web site for explaining the CWPP, implementation measures, and progress, as well as to provide for discussion and upgrading the CWPP.

m. Provide a free day each week at the county landfill for landowners to dump slash.

n. Seek better alternatives to open burning of dumped slash/ biomass at the landfill.

9. Form an NGO (Non-Government-Organization, a non-profit), "Custer Community Forest Association" to sponsor the educational effort, raise funds, and eventually run the Custer CWPP Office. Or have an existing non-profit do this. This NGO may be considered for the CWPP management-coordination contract.

10. Establish a "Save the Sangres Forests" fund or "Custer Forest Fund," in the NGO above or in an existing community non-profit, to be used to fund the Custer CWPP Office or Management-Coordination Contract, and to fund, subsidize, and provide incentives for a diversity of projects and approaches per an open, highest benefit/cost proposal system and as decided by a board of directors. Solicit government grants and private donations to this Fund. Also, solicit donations or per-acre voluntary fees or assessments from local neighborhoods for Forest Improvement Funds specific to those neighborhoods. These Funds would cost-share qualifying projects as determined by objective criteria and priority areas, possibly on a first-come, first-serve basis.

11. Involve other organizations, such as Ridge-Top Fire Spotters, San Isabel Land Protection Trust, for more mapping and other technical assistance.

Step Eight: "Finalize" Initial Community Wildfire Protection Plan

On AUGUST 21ST 2007, a public meeting was held for review of this Plan, asking for more suggestions, comments, and revisions. This meeting's input, agency, and numerous other

participant follow-up edits and reviews were used to improve the Draft Custer County CWPP in September 2007.

These are the additional Action ideas and study recommendations coming from review of the Draft CWPP:

1. Create in collaboration with the U. S. Forest Service a mechanism to allow forest treatments along the WUI of the base of the Sangres for areas of limited public access. Such a mechanism would allow public/private landowners and small businesses to cooperate in systematic buffer zone work in a streamlined and continuing system. A special Stewardship Management Committee may be formed to review and recommend projects involving firewood removals, timber sales, and cost projects. The public/ private partners involved in such projects may share funding.

2. Create a special tax district, such as "Custer Forest Improvement District" for the CWPP to start a full-time County CWPP office, implement the ideas, funding, etc.. This option would take considerable public awareness and convincing it is the best solution for continuing the CWPP. A new State Law, House Bill 07-1168 (April 9, 2007), see Appendix, authorizes such Forest Improvement Districts and spells out their authority, taxes, and operations. This Act needs further study and consideration by the community and the County Commissioners.

3. Enlist fire hazard mitigation companies to add a 10% (or similar) fee on all mitigation work that will be contributed to help fund the Custer CWPP Office and its educational activities and in promoting and organizing this type of work. On all mitigation work that is specifically organized by the CWPP Office, and contracted through it, charge a 10% to 20% fee for the organizational and promotional work. Provide from the County a 50:50 fund match to fees earned/ donated to strengthen the finances of the CWPP Office. The Custer CWPP Office may be contracted out or be in-house, governed by rules and oversight committees to insure goals are being met.

4. Form a County sub-committee to study various economic incentives for landowners and private companies doing fire hazard mitigation.

5. Create a quasi-governmental authority or CWPP contractor/ manager-coordinator to assist private landowners with consultation, reduced rental equipment (saws, chippers, trailers for slash, access road clearing equipment, etc.), clearing on private property along key roads, slash removal services, and numerous other related functions in accordance with the CWPP.

6. Communicate to property insurance companies the results of fire hazard mitigation and neighborhood protection to help reduce premiums for landowners.

CONCLUSION: THE CWPP ACTION PLAN FOR 2008:

The following conclusions are recommendations for the Custer County CWPP Action Plan:

1. Create a charter for and appoint a Custer County CWPP Commission (or Council) that includes community leaders, forest practitioners, and local fire and government representatives, which will serve as an advisory board to the Custer County CWPP Coordinator (see below.)

The Custer County CWPP Commission could organize as a new 501c3 nonprofit organization or as an affiliate of an existing Custer County nonprofit organization, or as a County agency.

The Commission/ Council will research and study the Forest Improvement District Act, non-profit organization designations, state and county regulations, private landowner incentives, and other CWPP implementation ideas to determine the most advantageous structure for the Custer County CWPP Commission/ Council.

Recommendations for a permanent organization to drive CWPP action will be presented to the Custer County Commissioners by the end of 2008.

2. Seek grant funding for the County from the Healthy Forests Restoration Act, the BLM, the U.S. Forest Service, and other sources by a specific proposal to initiate the following:

    a. Activate a County CWPP Office with a contracted CWPP Coordinator responsible to the Commissioners. This Office, with help provided by the Custer County Zoning Office and the CWPP Commission (see above), will coordinate and support mailings, information, low-cost high-benefit education, and CWPP actions per the CWPP recommendations and b-f below.

    b. Organize the GIS database and maps, specifically targeting the two priority Landscape Neighborhoods (Alvarado and San Isabel) as well as enhancing general countywide capabilities.

    c. Support writing two specific targeted priority Neighborhood CWPP's by Fall 2008.

    d. Demonstrate cost-share projects in the above two priority areas, in collaboration with U. S. Forest Service, Colorado State Forest Service, and private forestry companies, for initial projects starting in 2008 and completing in 2009 and for program continuation in other years. Also seek federal agency collaboration on adjacent public lands.

    e. Organize specific educational projects including bi-annual mailings and information packets, maintain contractor/volunteer lists, organize and promote free slash and biomass use day at the Landfill, attend public events with educational displays and programs, write newspaper articles, and develop achievement recognition and economic incentives and more.

    f. Organize fire hazard mitigation under and along the main power line to Wet Mountain Valley.

    g. Organize sessions for public comment on the voluntary and regulatory options available to Custer County to create CWPP awareness/action and to gauge community support and reaction.

APPENDICES:

- **FIRE HAZARD RATING FORM and explanation**

- **MAPS OF COUNTY AND EACH LANDSCAPE NEIGHBORHOOD, WITH COMMENTS ON IMPORTANT PROBLEMS AND STRATEGIES FOR EACH.**

- **Creating Wildfire-Defensible Zones, Publication No. 6.302, by F. C. Dennis, CSU Cooperative Extension and Colorado State Forest Service, 5/2003.**

- **Wildfire and Your Forest Home, Reduce the Risk. Wet Mountain Fire Protection District.**

- **GOVERNMENT – SPECIAL DISTRICTS. HOUSE BILL 07-1168, CONCERNING FOREST IMPROVEMENT DISTRICTS.**
  See http://www.state.co.us/gov_dir/leg_dir/olls/s12007a/sl_111.htm

Figure 1. Custer County Community Wildfire Protection Plan -- 2006--2007

WILDFIRE HAZARD RATING FORM

- by "LANDSCAPE NEIGHBORHOOD" and PART (Parcel Size Class)- **rev. 5/07 LL**

NEIGHBORHOOD _____ ALL, or PARTS: Small, Medium, Large

DATE:_____ Other Strata: (indiv. Subdivision, etc) – identify:_____

RATED BY : _____RATING METHOD: QUICK DETAILED Other:by Strata

THIS RATING FORM , HAZARD RATING = _____ ___ (max.=100)

COMMENTS or additional ratings (name and amount) _____

Ratings from map and aerial photo review, combined with review team and landowner site knowledge:

A. ACCESS (rate higher if narrow roads, locked gates, no marked streets or names/ addresses at roadsides)

1. INGRESS/EGRESS PRIMARY ROADS:
   - Two or more roads to most areas 1
   - One road, with another possible way out 3
   - One way in, one way out, most areas 5

2. SECONDARY ROAD TERMINUS:
   - Loop roads and cul-de-sacs with radius of 45+ feet 1
   - Cul-de-sac radius less than 45 feet 2
   - Dead-end roads, 200 feet or less 3
   - Dead-end roads, greater than 200 feet 5

3. GENERAL ROAD STEEPNESS:
   - Road grades always 5% or less 1
   - Road grades with some 5% to 10% 3
   - Road grades with some 10% or more 5

B. VEGETATION (see fire behavior maps to rate #1,#2)

1. FUEL LOADS (VEG. MATERIAL DENSITIES):
   - Light 1
   - Medium 5
   - Heavy 10
2. FUEL CONTINUITY (in general)
   - Well-broken by openings, etc. 1
   - Moderate, with some openings 5
   - Mostly continuous over the area 10
3. DEFENSIBLE SPACE/ IGNITION ZONE TREATMT
   - 70% of structures (or 70% okay/ min. standard) 1
   - 30% TO 69% of structures (or 30—69% okay) 3
   - Less than 30% of structures (or less than 30%okay) 5
4. FUEL TYPE
   - Grass/ pasture 1
   - Aspen 3
   - Ponderosa pine 5
   - Spruce-fir 6
   - Mixed conifer (fire, pine, oak) 8
   - Pinon/ Juniper/ Ponderosa pine mix 10
5. PROXIMITY TO CONTINUOUS FOREST AREA
   - Over one mile away 1
   - Adjacent 3
   - Surrounded by a large forest areas 5

TOTAL FOR NEIGHBORHOOD or PART: _____

Maximum is 100 points

C. TOPOGRAPHY

1. PREDOMINANT SLOPE:
   - 8% or less 1
   - More than 8%, but less than 20% 4
   - 20% or more, but less than 30% 7
   - 30% or more 10

2. ROUGHNESS/ LAND CHARACTER
   - Smooth or rolling hills 1
   - Moderate hills / canyons 3
   - Many canyons, steep hills 5

D. FIRE PROTECTION

1. WATER SOURCE
   - 500 GPM hydrant within 1000 feet 1
   - Hydrant or draft site(s) > 1000 feet 2
   - 20 minutes or less, round trip 3
   - 45 minutes or less, round trip 7
   - Farther than 45 minutes, round trip 10

2. EQUIPMENT AND CREW SOURCE
   - Less than 10 miles 1
   - 10 to 20 miles 3
   - Over 20 miles 5

3. AVERAGE STRUCTURAL IGNITABILITY
   - Low – fire resistant roof, siding, w/good maint. 1
   - Medium – ignitable roof, siding, med.maint/debris 3
   - High – very ign. roof/siding, poor maint./ debris 5

E. UTILITIES (ELECTRIC AND GAS) (in general)

- All underground 1
- One under, one above, or combination 3
- Above ground – with cleared, wide Right of Ways 4
- Above ground – w/partially cleared/narrow ROW's 5

F. COMMUNITY VALUES AT RISK (special resources, watersheds, forests, recreational/ wildlife/ ecological assets, community improvements, powerlines, com.tower, historical)

Identify: _____

Low 1
Medium 3
High 5

RATINGS MAY BE DOUBLED FOR EXTREME CASES

<<<<<<<<<<**total**<<<<<<<<<<<<<<<<<<<<<<<<<<<<<

Understanding the Wildfire Risk and Hazard Assessment Form

A. Means of Access –

This is for escape routes and emergency vehicle access. Can include two track roads that may not be used, but are wide enough for a vehicle to travel on. Make sure the road is in good condition. Make sure there is ample space for emergency vehicles to maneuver around without obstruction. There should be street signs and addresses clearly visible.

B. Vegetation –

1. Characteristics of predominant vegetation. Density and fuel loading create fire hazards.
    a. Light – Keep grasses mowed at least 50' from structures and 30' away from either side of the road.
    b. Medium – Keep bushes trimmed and away from under trees
    c. Heavy – Thin trees around home for defensible space. Limb or remove trees along driveway that could obstruct an emergency vehicle.
    Additional: Slash = Broken tree tops and branches. Remove debris by chipping, hauling away, burning (only when conditions permit), lop and scatter under 12".

2. Defensible space and Home Ignition Zone – See CSU publications for guidelines.

C. Topography – Steepness contributes to rapid fire spread in forest and other vegetation.

1. up to 20% slope, you have a small slope around your house (less hazard)
2. 21% - 30% slope, you have a moderate slope around your house
3. 31% - and above, you have a severe slope around your house (high hazard)

D. Available Fire Protection

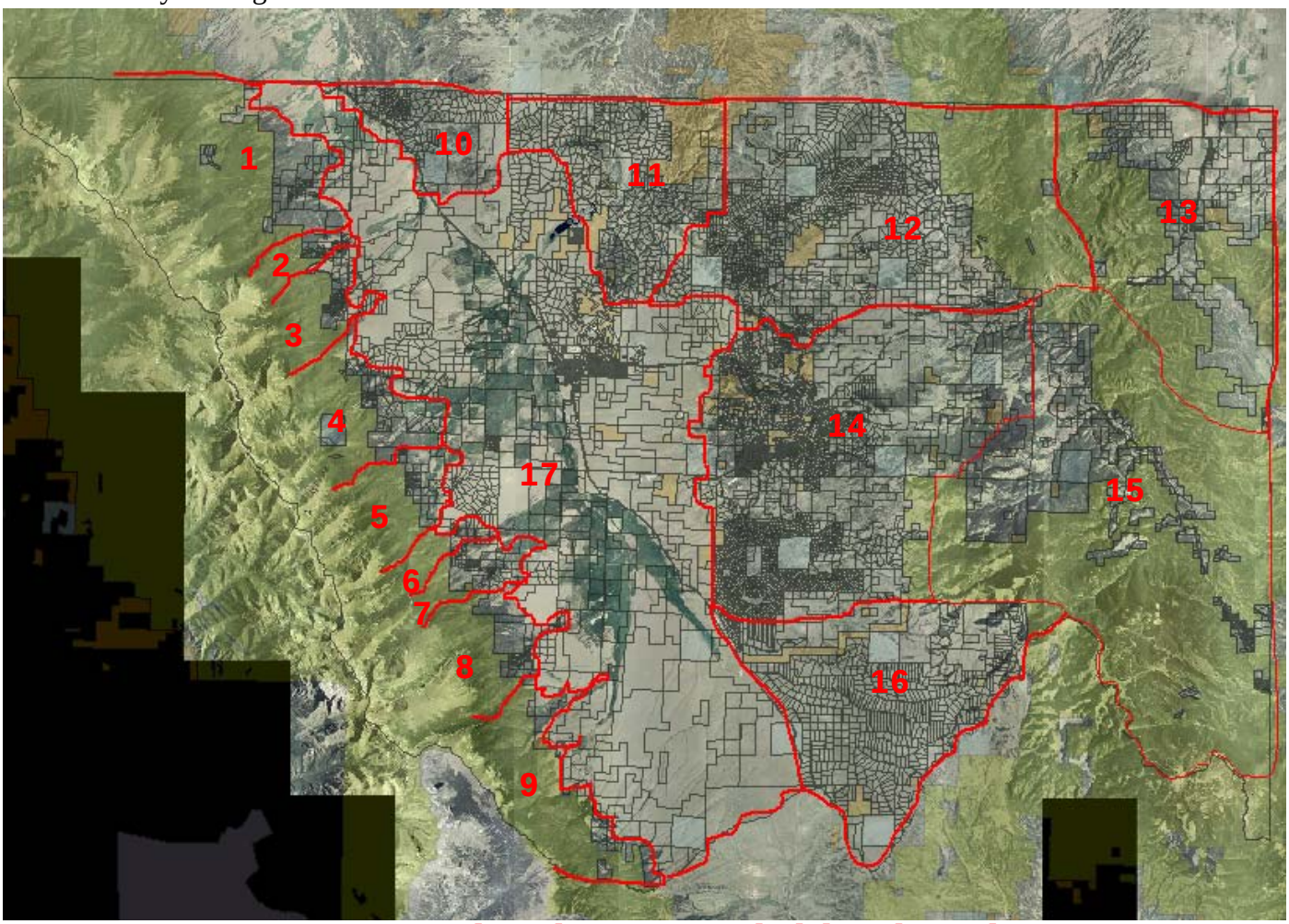
1. Water source availability (for firefighting) – from hydrant, well, cistern with pump, or source with draft connections
2. Organized Response Resources - Fire station equipment and crew over 10 miles away.
3. Fixed Fire Protection – inside home – consider for your home.
4. Roofing Assembly – for structural ignitability.
    a. Class A – metal or clay tile – least flammable.
    b. Class B – Asphalt tiles
    c. Class C – treated wood shingles
    d. Nonrated – untreated wood shingles – most flammable
5. Building Construction – for structural ignitability.
    a. Materials
        i. Metal, Stucco, Composite Decking, Concrete pads – least ignitable.
        ii. Metal, Stucco, wood decking
        iii. Log, Log siding, Wood siding, Wood decking – most ignitable.
    b. Building setback – from vegetation or forest
        i. small slope – less fire risk
        ii. large slope – more fire risk

E. Placement of Gas and Electric Utilities – Power lines, and nearby propane tanks.

F. Additional rating factors

1. Topographical features – steep hillsides near home and near your neighborhood
2. Area with history of wildfire occurrence – show likelihood of wildfire.
3. Area exposed to severe fire conditions – ridge tops are high-risk homesites.
4. Other structures that store flammable material – add to fire hazard.

THE FOLLOWING MAPS ARE FOR THE WHOLE COUNTY AND THEN FOR EACH OF THE LANDSCAPE NEIGHBORHOODS – These show aerial photos, topography, access, land parcels, and fire behavior. Associated fire history is also illustrated in separate maps. Geographic Information System (GIS), aerial photo, topographic, access, land parcel maps, and Fire Behavior model information was obtained from the U. S. Forest Service, BLM, and Custer County Zoning Office.



Custer County landscape neighborhoods, 2007

Note: on the above map, parcel densities appear BLACK/ GRAY SHADED. These density areas indicate especially fire hazardous areas in many parts of the county. Westcliffe and Silver Cliff are the large dark shaded area above the number "17."

The **Landscape Neighborhoods** are as follows:

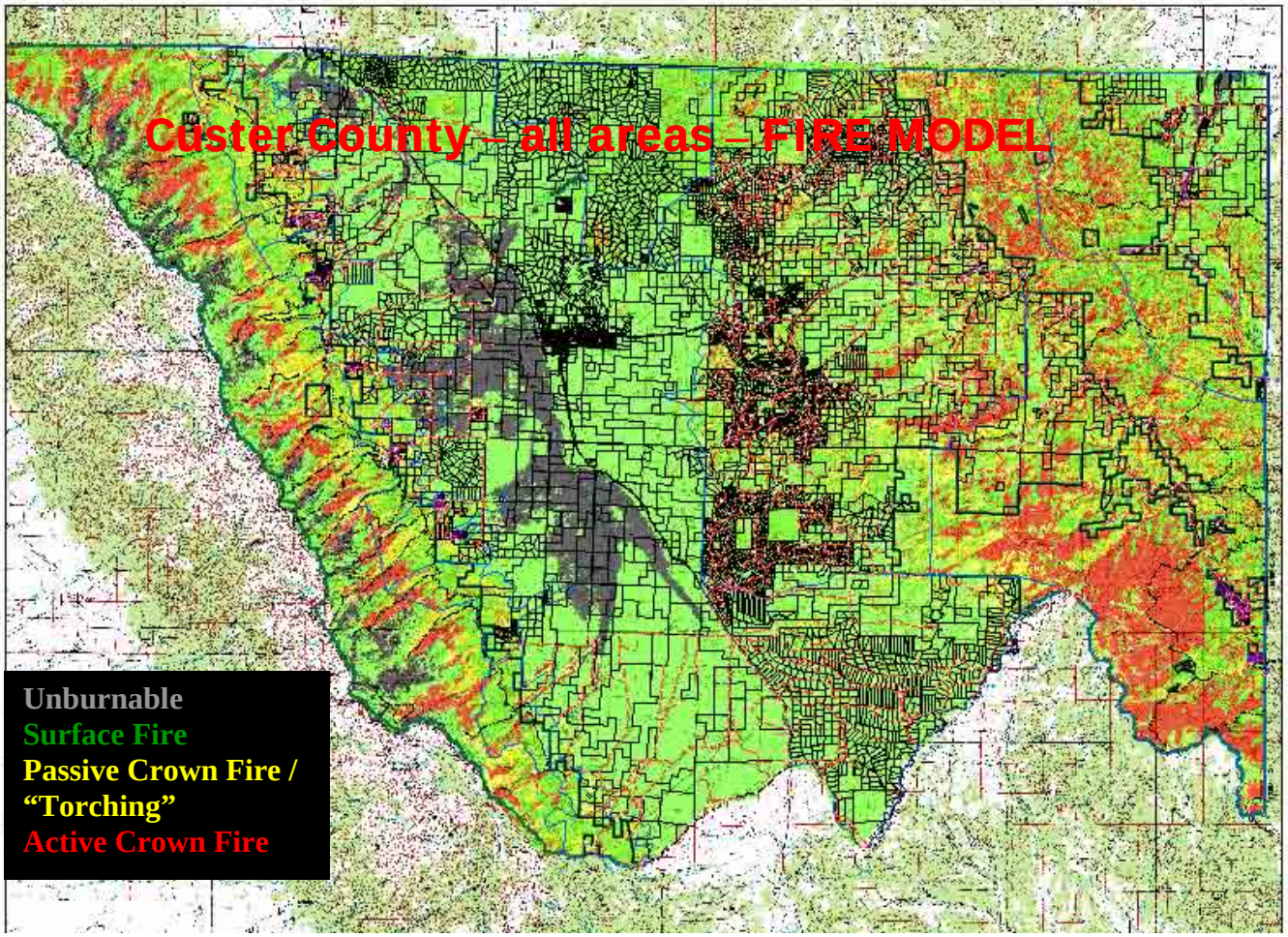
Sangre de Cristo:

1. Brush Creek
2. Verdemont
3. Pines
4. Taylor Creek
5. Alvarado
6. Horn Creek
7. Macey Creek
8. Colony
9. Music Pass

Others:

10. Reed Road
11. Bull Domingo area
12. Silver Cliff Heights
13. Wetmore
14. East Hills
15. Wet Mountains – to San Isabel
16. Centennial
17. Main Wet Mountain Valley

Custer County – all areas --- FIRE MODEL



Notes: Red is extreme fire hazard…. Yellow is next hazardous. Black-shaded indicates high-density parcel areas.

The Fire Behavior Model maps illustrate the following:

Crown fire behavior assessment computer model assumptions:

30 mph, 20 foot winds, 90% foliar moisture content, & 90th percentile remaining fuel moisture conditions

Gray = unburnable

Dark green = surface fire only

Yellow = passive crown fire/ "torching" = Yellow

Red = active crown fire

NOTE THE FOLLOWING FIRE BEHAVIOR AREAS IN THE SUBSEQUENT MAPS:

Areas of yellow and red are prominent in:

Base of Sangres

Some Rosita areas

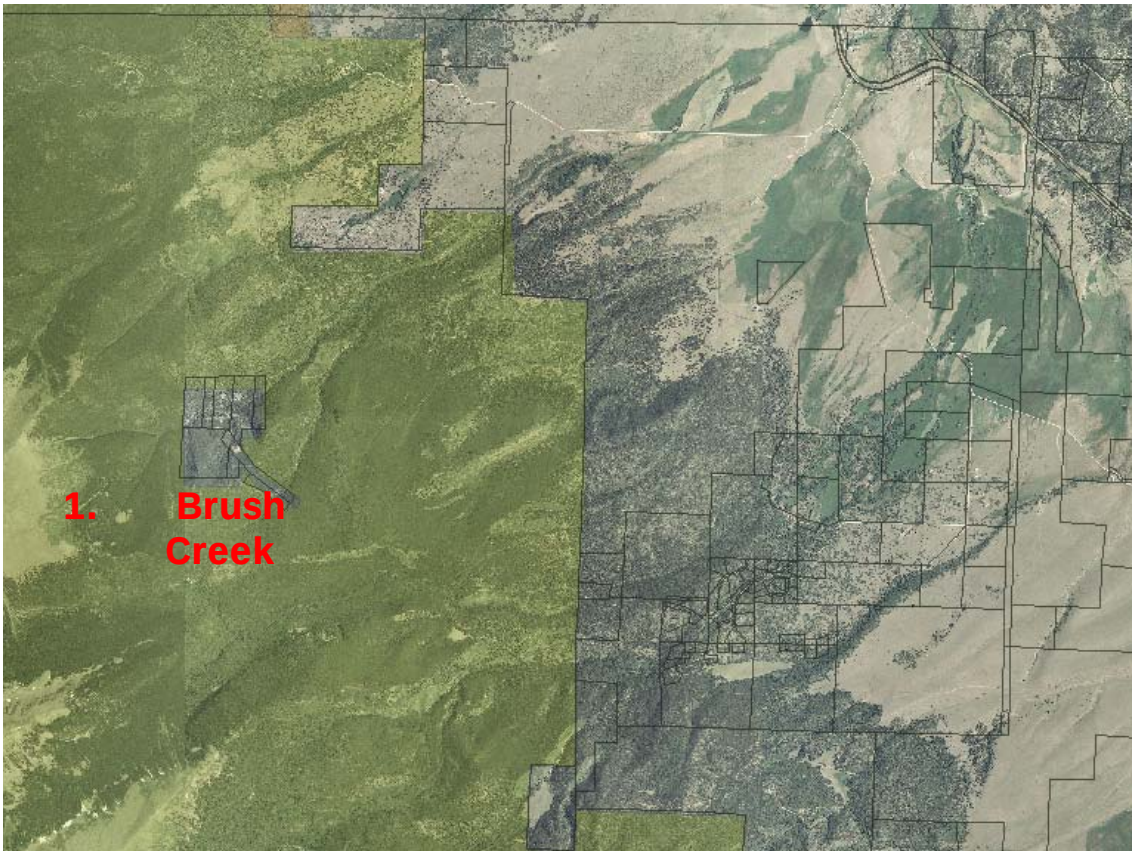
Silver Cliff Heights, and near the Oak Creek Grade main powerline

Wet Mountains, in National Forest (very prominent)

Especially note yellow & red, & some green (meadows)

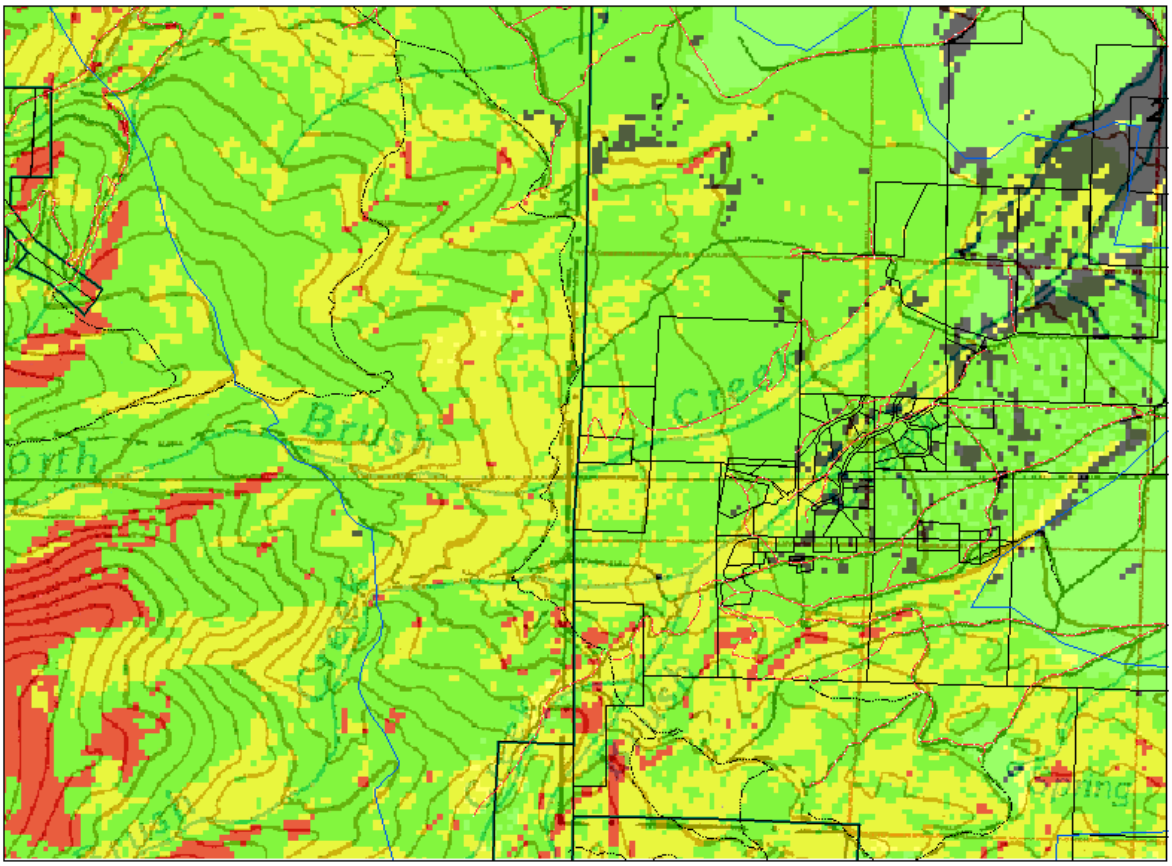
Near subdivisions, especially small lots (a warning!)

In Tyndall Gulch Fire of 2006 (this indicates the model is accurate)



#1. Brush Creek aerial photo

Brush Creek south FIRE MODEL



1c. Brush Creek Density Area

#1. Brush Creek Density Area has many older cabins and homes, with dense forest and oak brush. Hidden cabins indicate great need for defensible space work. One large meadow serves as a firebreak and evacuation safe zone. Narrow roads are one-way-in and one-way-out, and escape routes need development to the north and south (on both public and private lands.) Several ponds could serve for fire fighting water if developed.

Nearby Lake Creek fire scar shows wildfire can happen in the Sangres.

Lake Creek - 1993 -250 acres

WILDFIRE IN #1. BRUSH CREEK – Lake Creek

The Lake Creek fire of 1993 burned 250 acres. It started from a lightning strike high above Rainbow Trail, but hot and dry southwest winds blew it downhill to threaten the Rainbow Trail Lutheran Camp and private lands bordering the National Forest. A huge fire control effort contained the fire at considerable cost, approximately $450,000 or about $1,800 per acre.

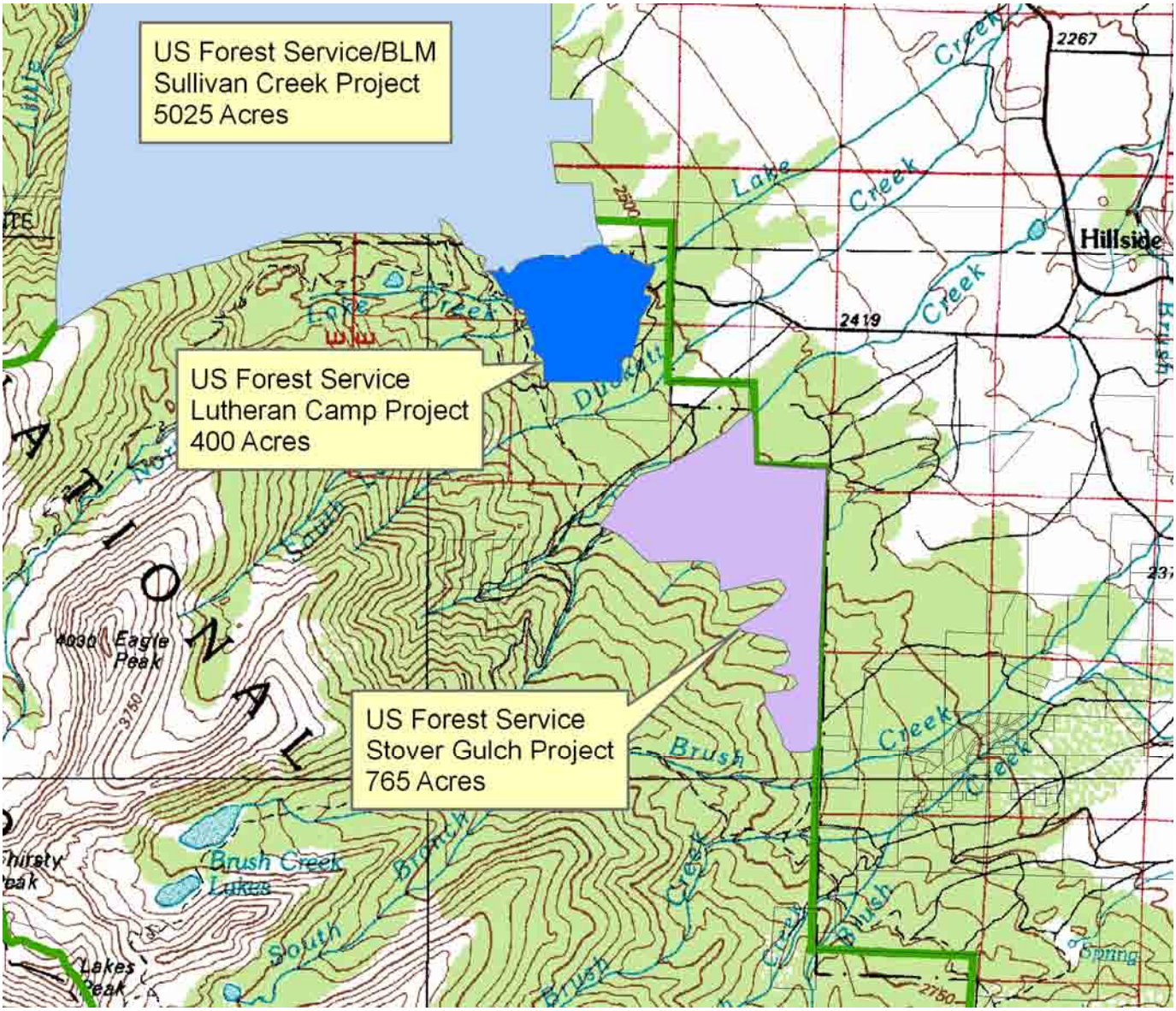
Lessons learned: The fire was driven by high, dry and down-slope winds in July. It demonstrated that on the east side of the Sangres, typical down-slope winds can be offset by the tendency of fire to go upslope with forest fuels in a chimney effect – therefore slowing a wildfire even in high wind conditions. As a result, the USFS fire model red zones on the east slopes of Sangres may be less of a hazard than those on the west slopes and tops of the Wet Mountains.

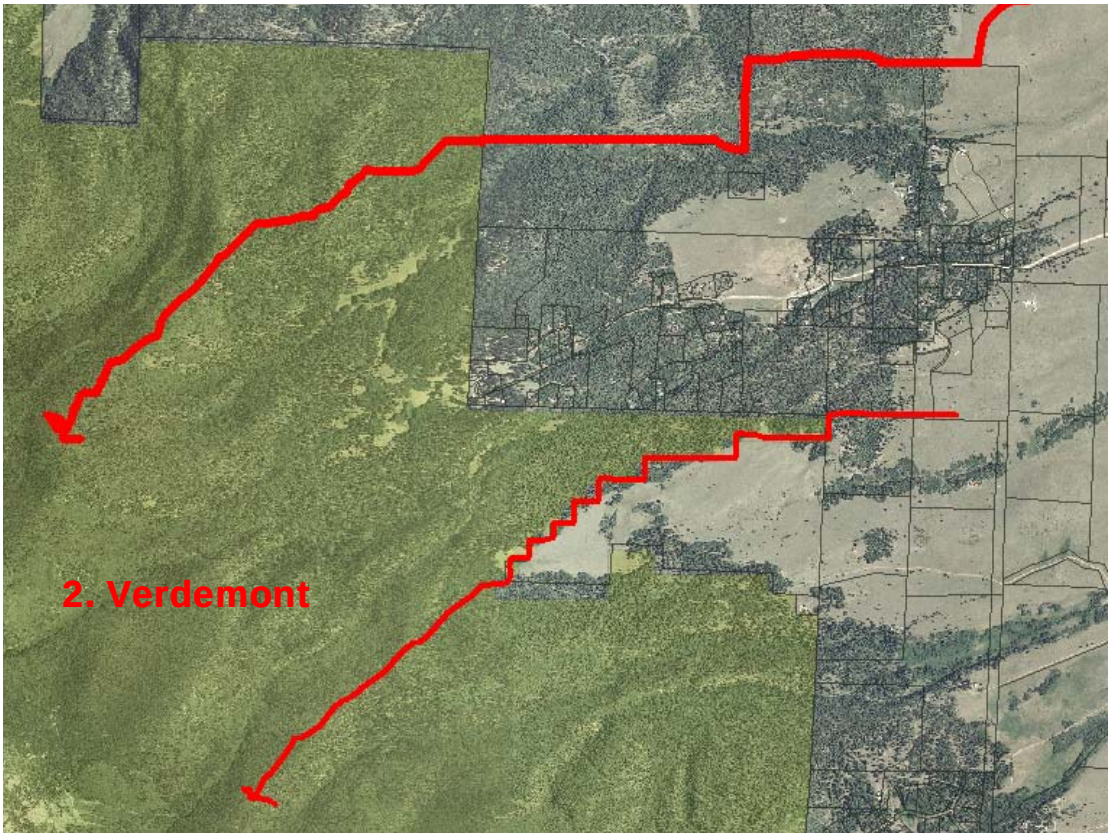
This burn scar is an excellent example of what a severe wildfire can do in the Sangres, in effect creating a "moonscape." It is also a living example of forest re-growth after fire.

-- in 2007, forest slowly coming back

BRUSH CREEK --- USFS PROJECT AREAS

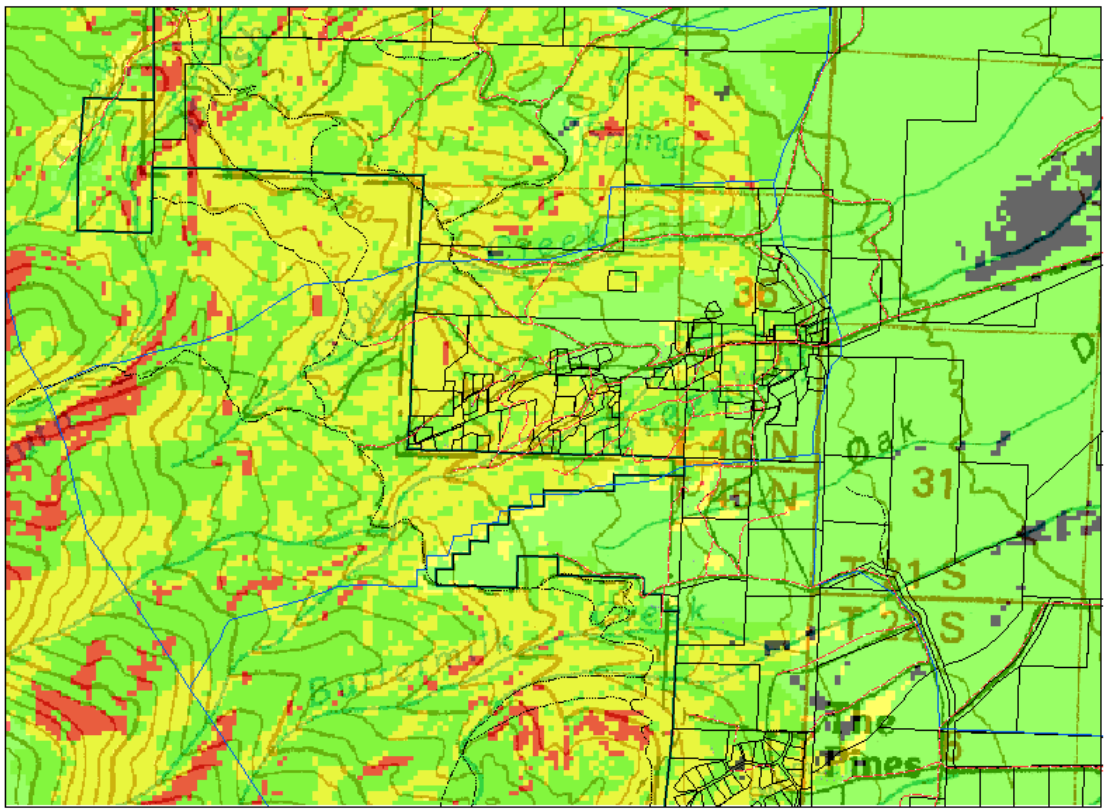
a. **Sullivan Creek (active tree and oak brush treatments, many years)**
b. **Lutheran Camp (project completed in 2006, tree and brush)**
c. **Stover Gulch (in planning)**





#2. Verdemont aerial photo

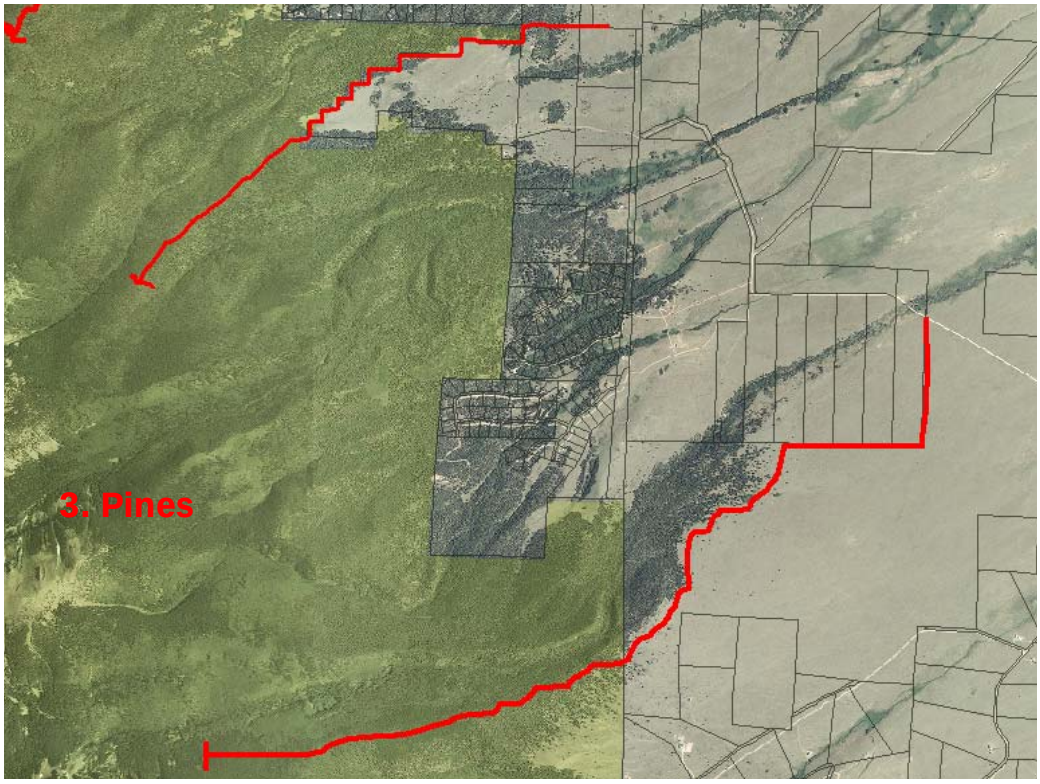
Verdemont larger area --- FIRE MODEL



2a. Verdemont Density Area

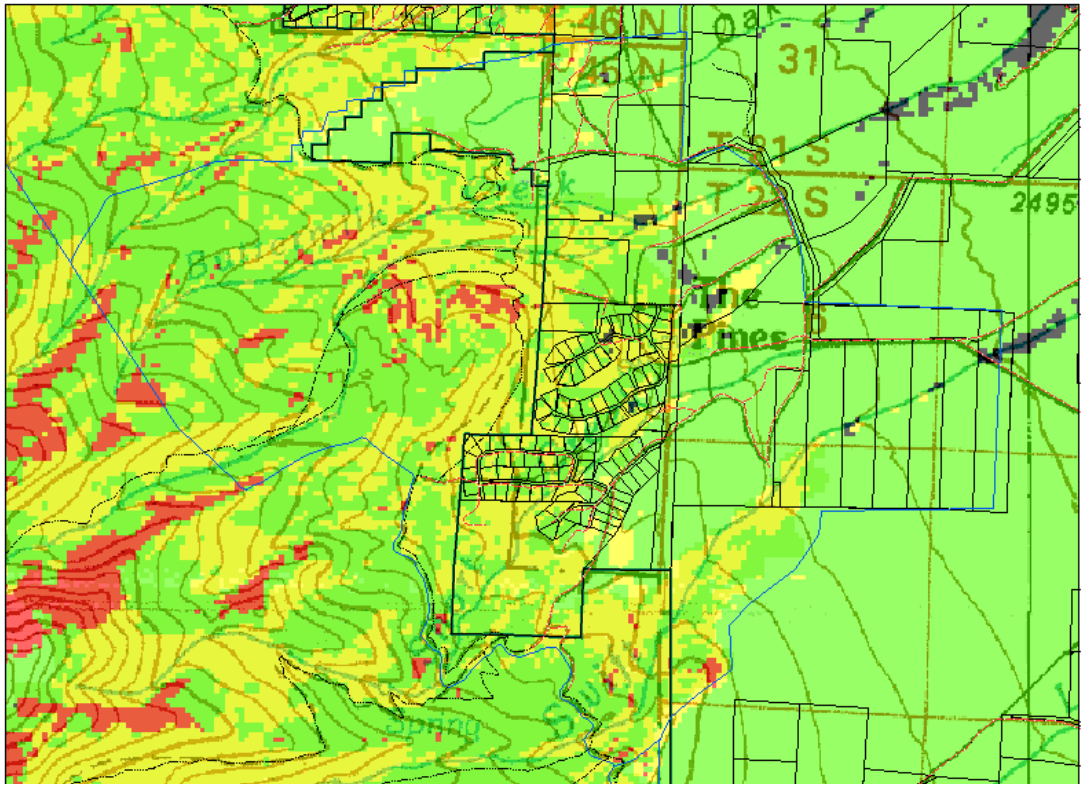
#2. Verdemont Density Area has numerous older, higher ignitability cabins and homes in thick forest, with generally one-way-in and one-way-out narrow roads and driveways. Good features are the large meadows serving as fuelbreaks and escape safe zones on the north and south, and the interspersed meadows on the west side that extend into the National Forest. Water sources (Greenleaf Creek or pond?) for fire fighting need development, as well as escape routes to the north and to the south. Note that red zones in National Forest all along the Sangres are less important than those in the Wet Mountains due to prevailing downslope winds.

An emergency communication tower is also at risk.



#3. Pines aerial photo

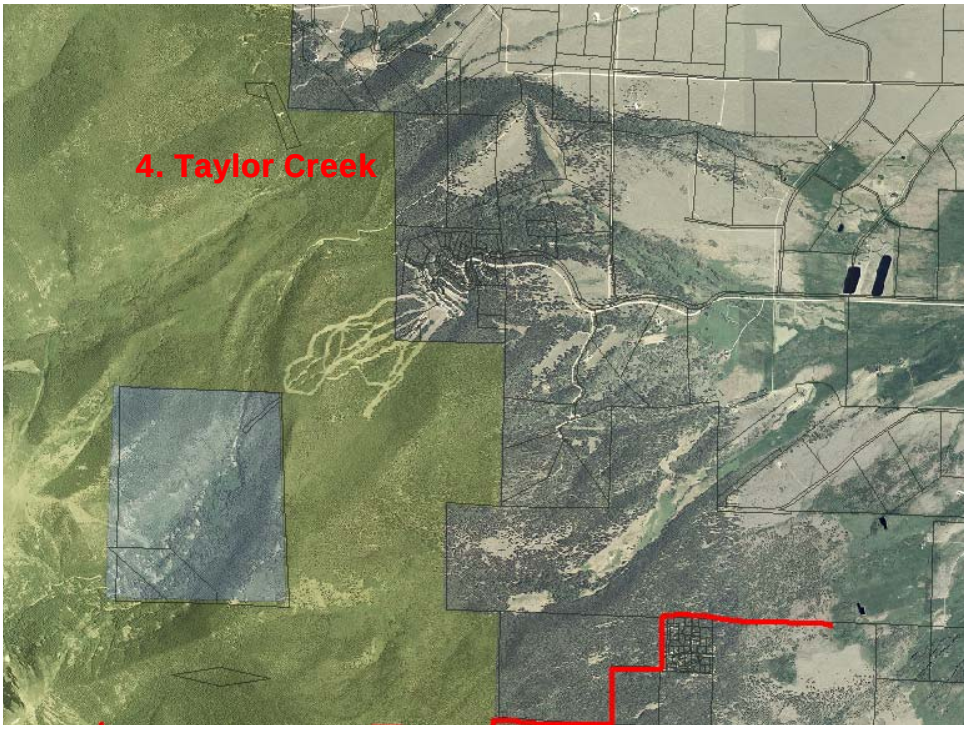
Pines Density Area ---- FIRE MODEL



3a. Pines Density Area

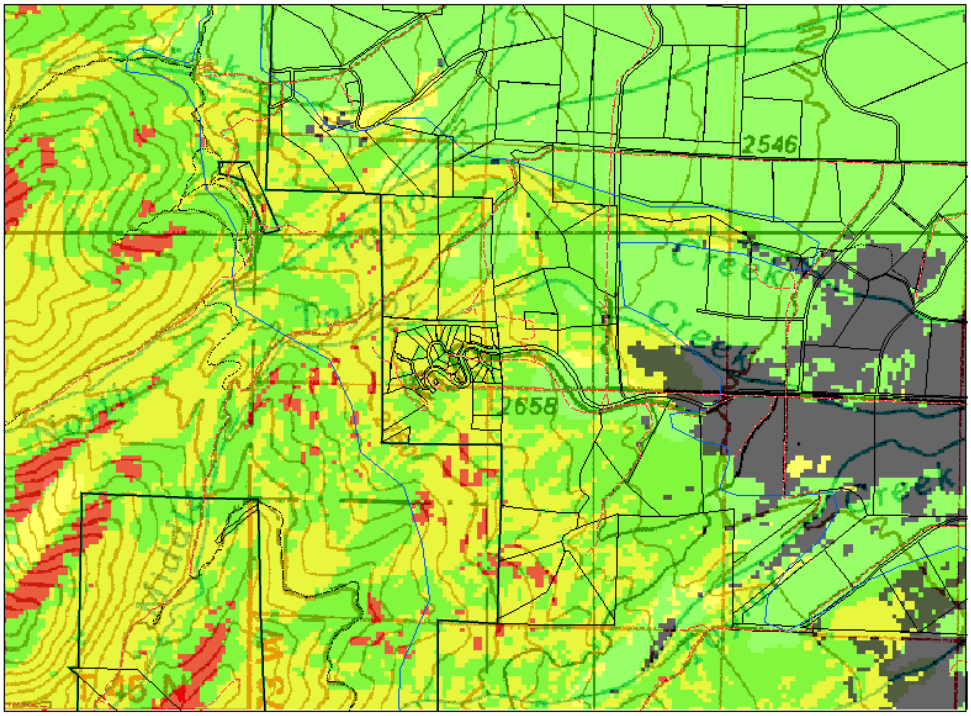
#3. Pines Density Area illustrates good features of interspersed meadows and loop roads, and some possible escape routes that need to be improved. Several ponds need access and water drafting work. Forest vegetation between roads and meadows is extremely thick, and many cabins and homes are hidden in the dense forest – indicating need for defensible space and perimeter work.

An existing CWPP for Spread Eagle Ranch may serve as an example for other subdivisions. A possible draft water source may the pond at Pines Ranch, a historic and community-value dude ranch that is at risk.



#4. Taylor Creek aerial photo

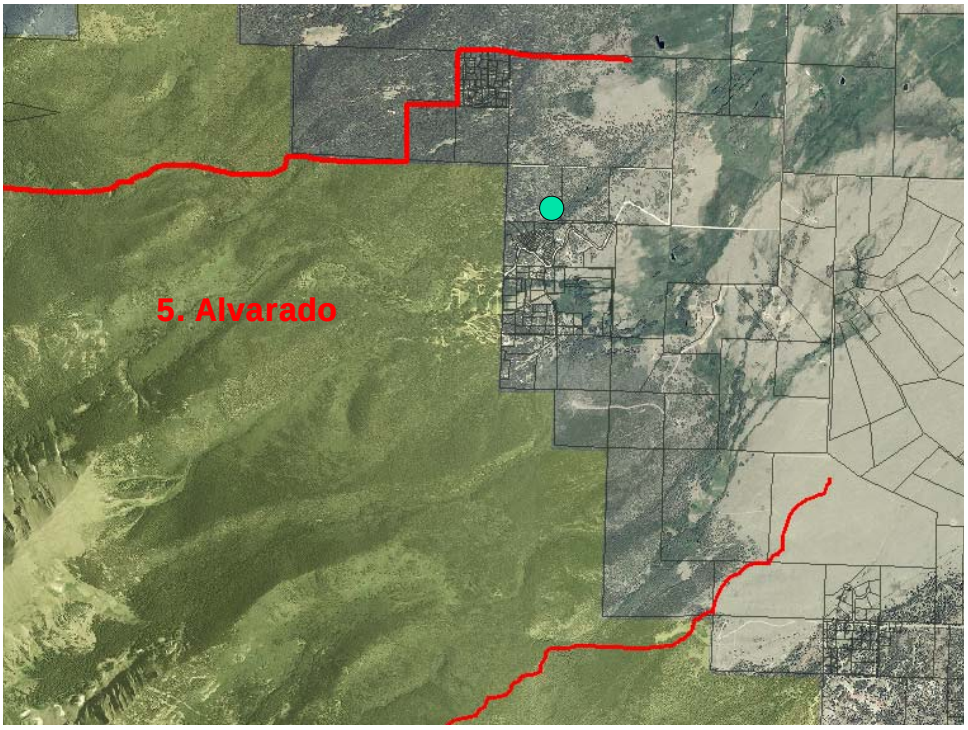
Taylor Density Area vicinity --- FIRE MODEL



4a. Taylor Density Area

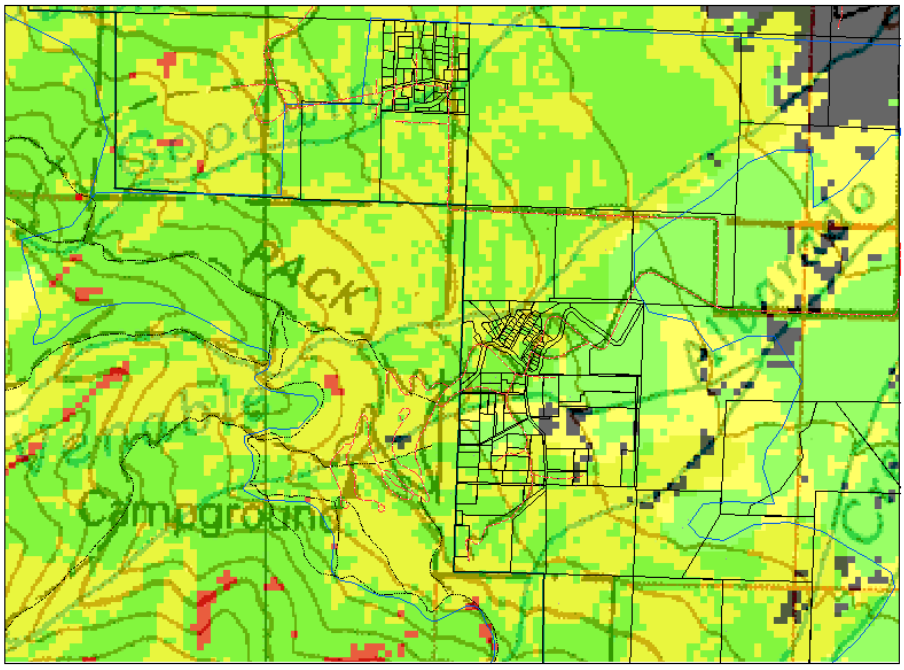
#4. Taylor Density Area is focused on the former ski area, and has a large lodge and conference center of high community value as well as small-lot residential areas. Dense forest obscures most homes in the photo, indicating extreme need for defensible space and fuel reduction.

Loop road system is very limited, and escape routes need development to the north (Hermit Road) and to the south (Taylor Highlands lots, Walker Ranch, Puls property and possibly out through Tanglewood subdivision.) Interspersed and adjacent meadows form good fuelbreaks and escape zones. Fire-fighting water sources are developed at the lodge and the recreational ponds on Muddy Lane.



#5. Alvarado aerial photo

Alvarado Density Areas --- FIRE MODEL



#5. Alvarado Density Areas

5a. Alvarado Density Area North

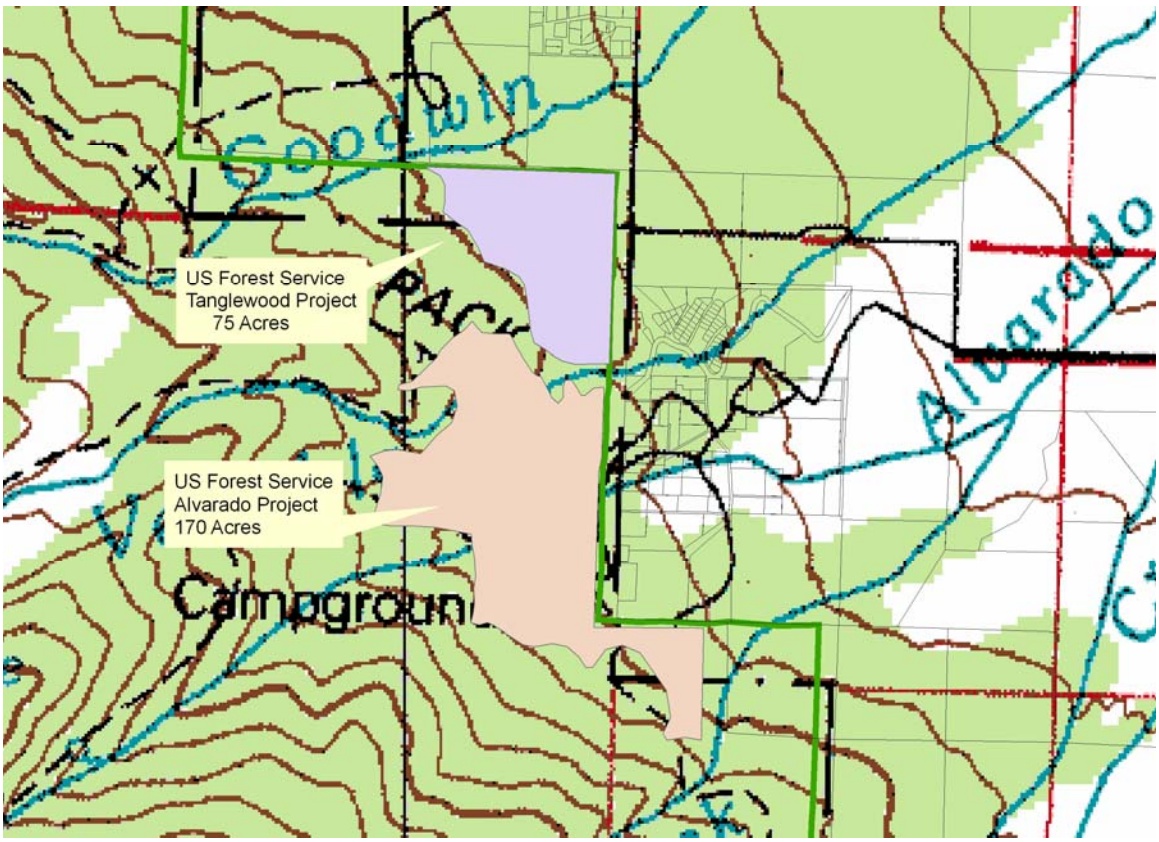
5b. Alvarado Density Area South

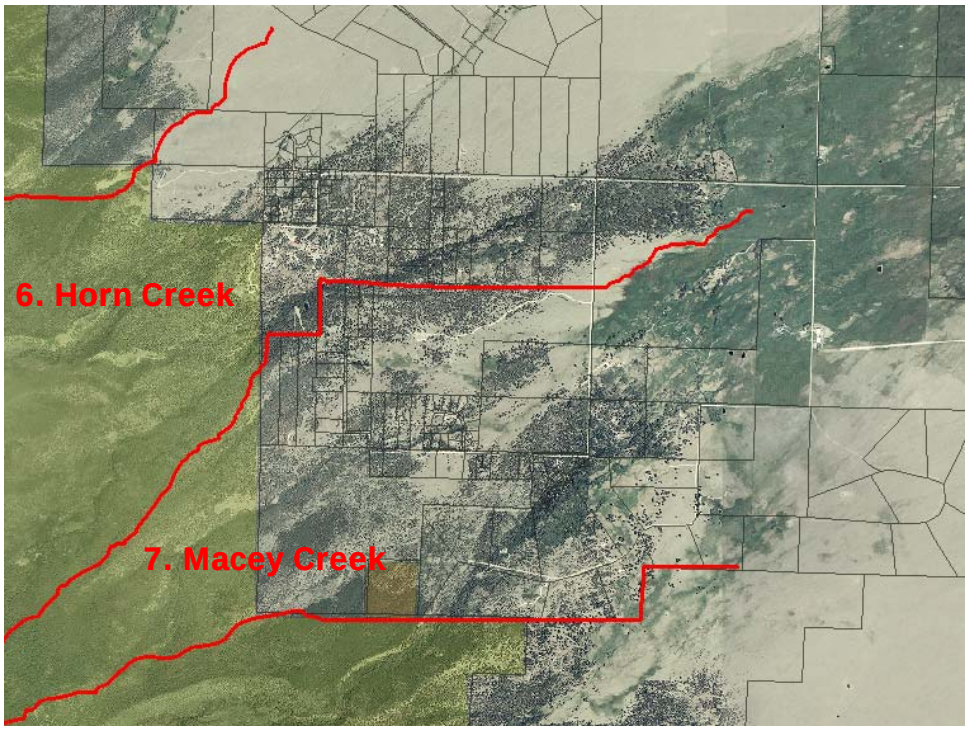
#5. Alvarado Density Areas include the Sangres and several older subdivisions. Perimeter forest needs reduction, and improved. National Forest boundary almost on the Rainbow Trail, limiting reduction project is under contract, largest Forest Service campground on the Interspersed and adjacent meadows are good. defensible space, access, and water sources buffer zones are needed. Wilderness Area is possible forest treatment areas. A USFS fuel starting as a timber sale.

Alvarado USFS Projects

a. Tanglewood – part of logging contract with Horn Creek project, 2006, to be followed by slash, brush, and small tree treatments.

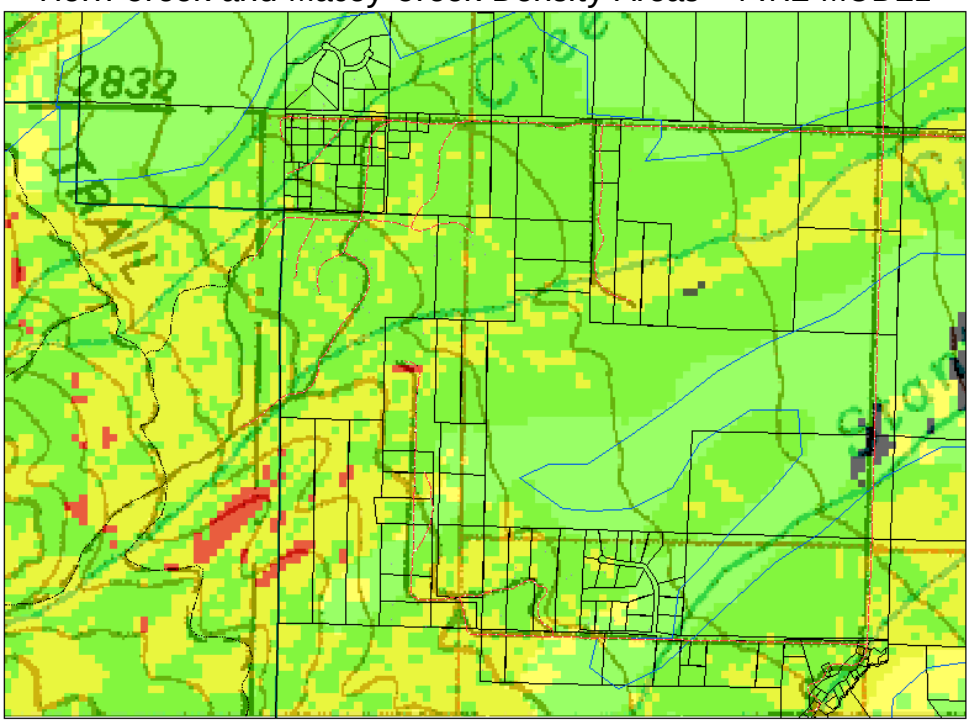
b. Alvarado – in planning stages.





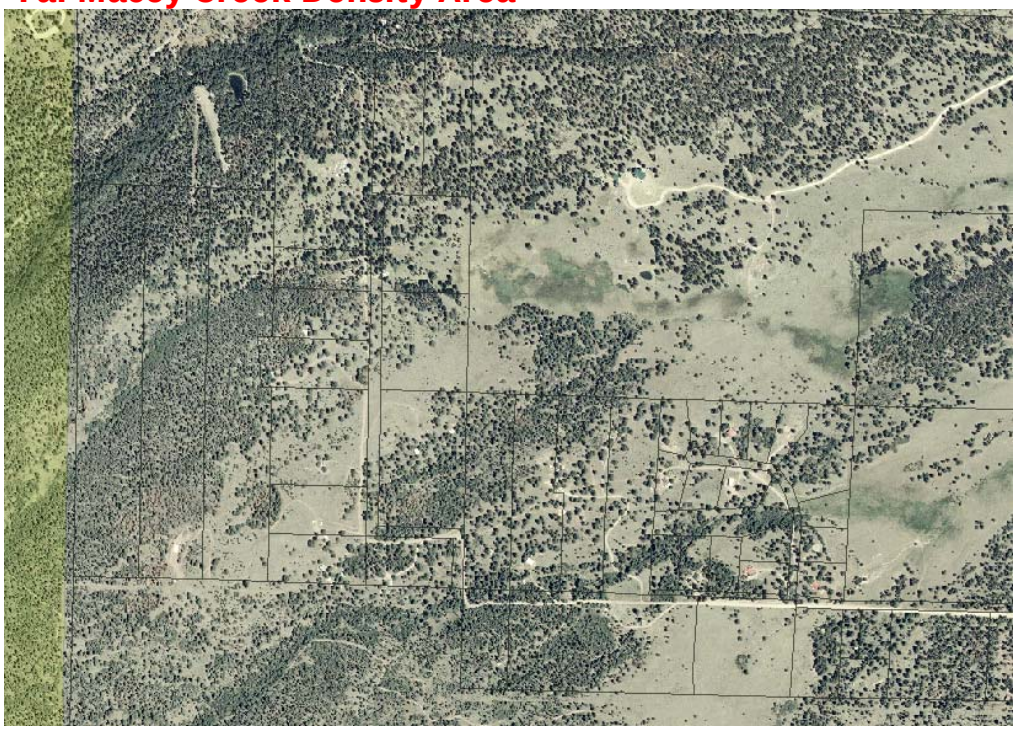
#6. Horn Creek and #7. Macey Creek aerial photo

Horn Creek and Macey Creek Density Areas – FIRE MODEL



6a. Horn Creek Density Area

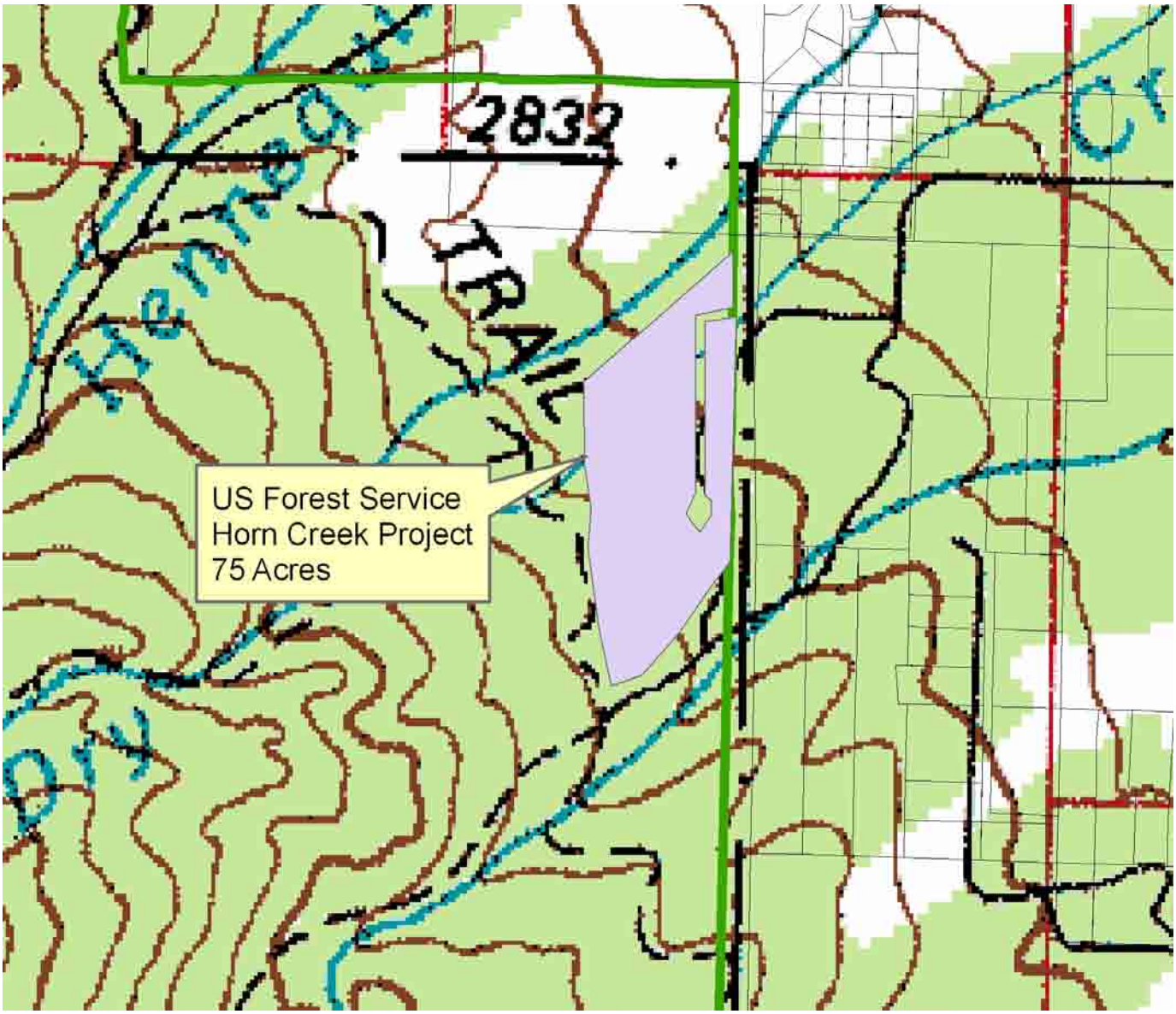
7a. Macey Creek Density Area

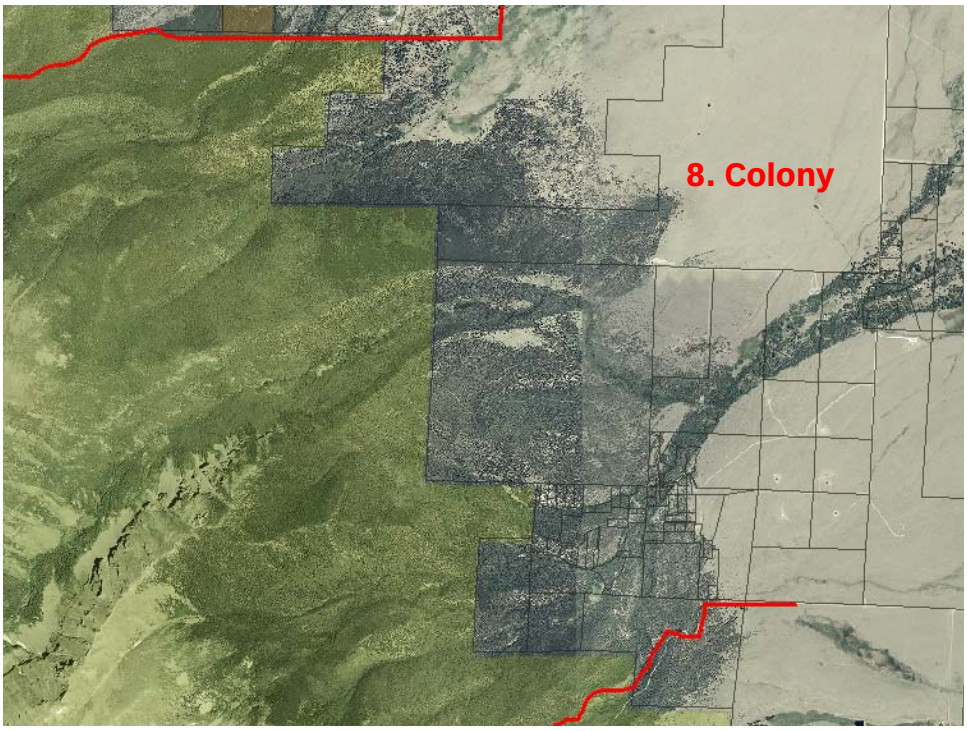


#6. Horn Creek and #7. Macey Creek Density Areas may be considered as one Landscape Neighborhood. Escape routes between the two need development for loops. Meadows are good firebreaks, but dense tree areas are extreme hazard. Water source is developed at Horn Creek camp (a very large community-value conference center and lodge), but other ponds need access and improvement. Main powerline is overhead and needs protection. National Forest buffer zone needed. A USFS fuel reduction project is under contract at Horn Creek Trailhead.

HORN CREEK— USFS PROJECT AREA

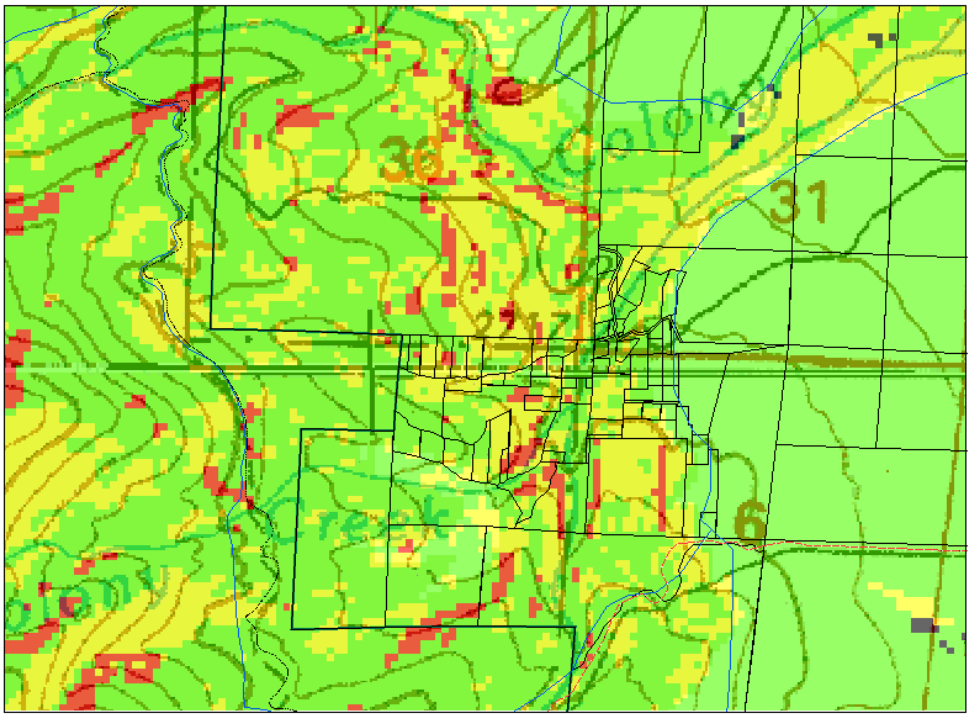
a. **logging part of operation contracted in 2006**
b. **to be followed by slash, brush, and small tree treatments**





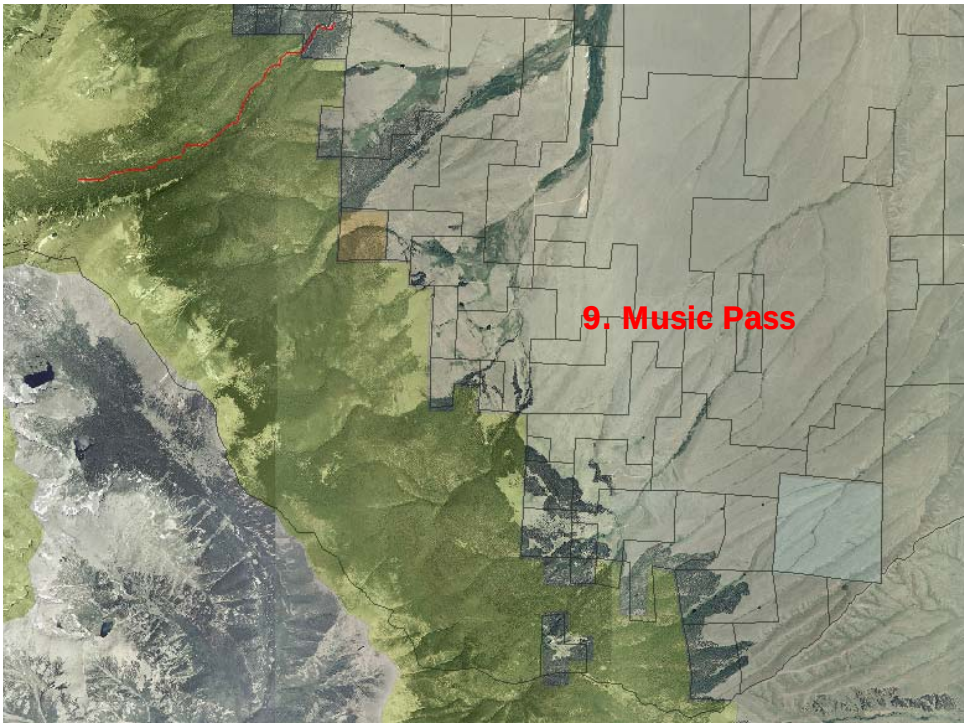
#8. Colony aerial photo

Colony Density Area --- FIRE MODEL



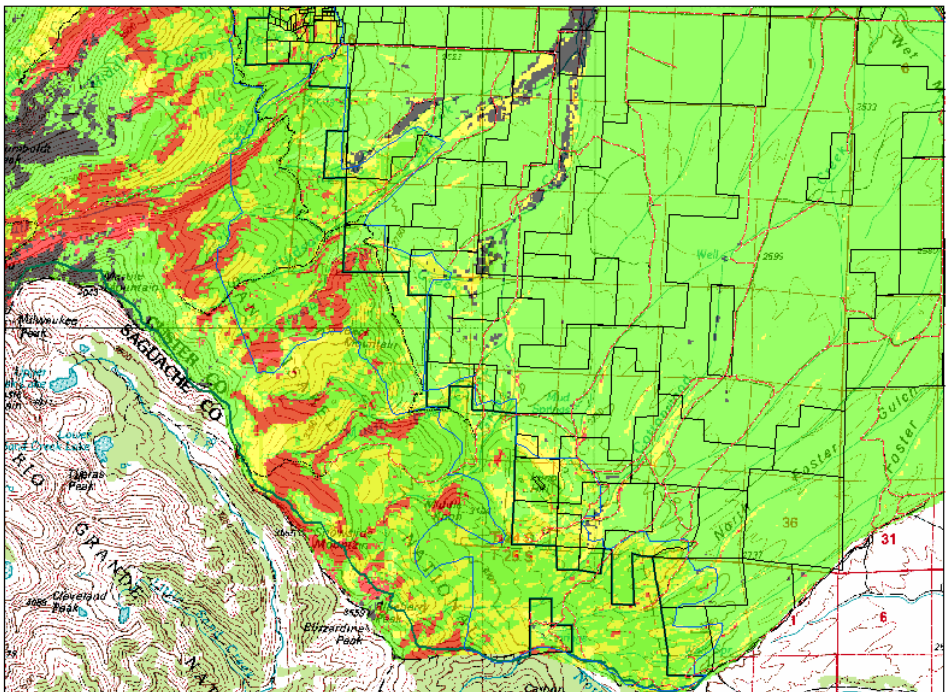
8a. Colony Density Area

#8. Colony Density Area has steep roads, small lots, older cabins, dense forest, few meadows or firebreaks, no developed water sources. Cabins are hidden in the aerial photo, showing defensible space is needed. Hazard rating is very high. This is a very difficult area to protect from wildfire. Escape routes need development, identification, and agreements with owners to the north and south.



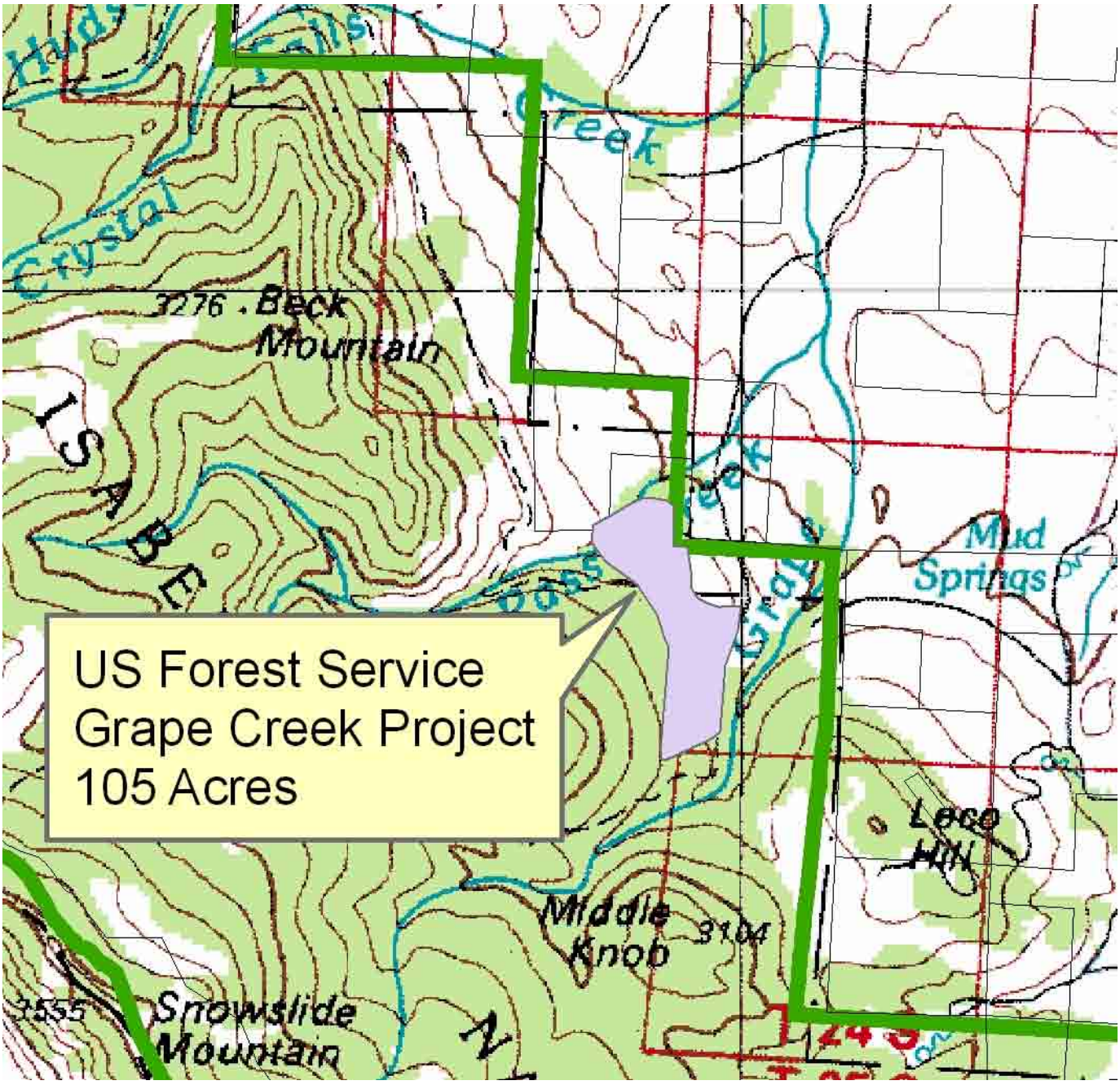
#9. Music Pass aerial photo

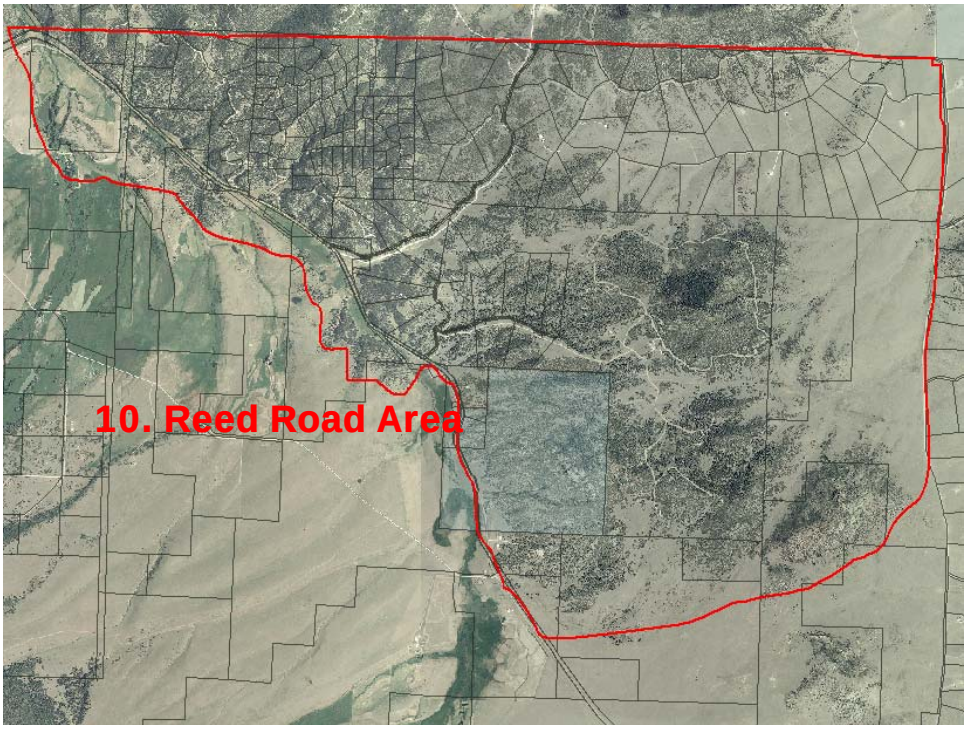
Music Pass area --- FIRE MODEL



#9. Music Pass does not have a high-density parcel area, is remote, has large meadows extending into National Forest. Red zones are not near many structures.
Hazard Rating is low.

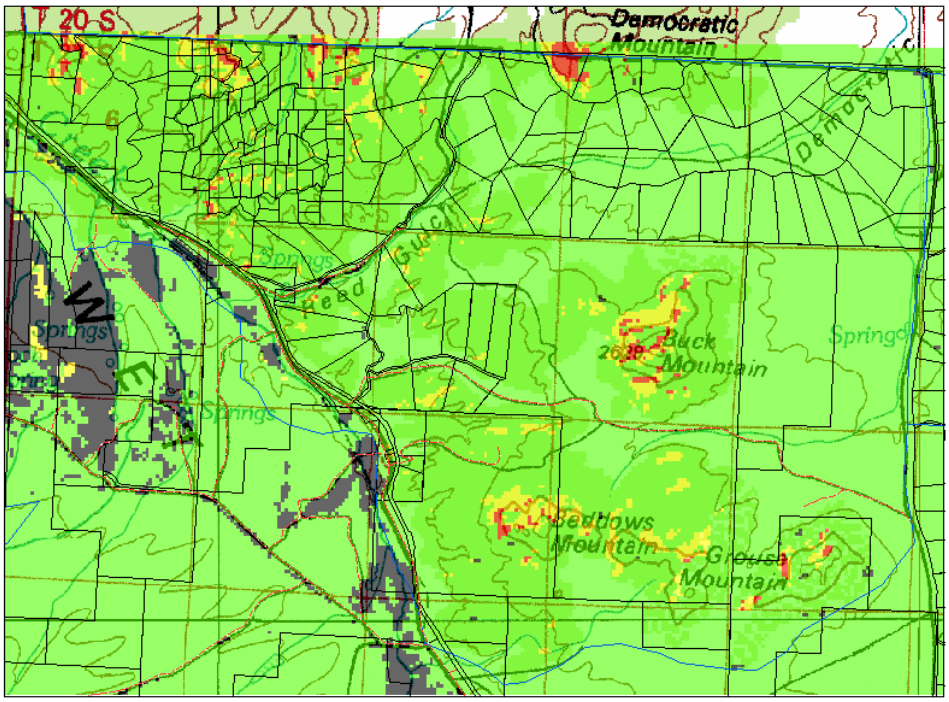
Music Pass USFS Project Area (Grape Creek)
a. In planning and scheduling stages. Dead tree concentrations due to mountain pine beetle and other insect/ disease problems.



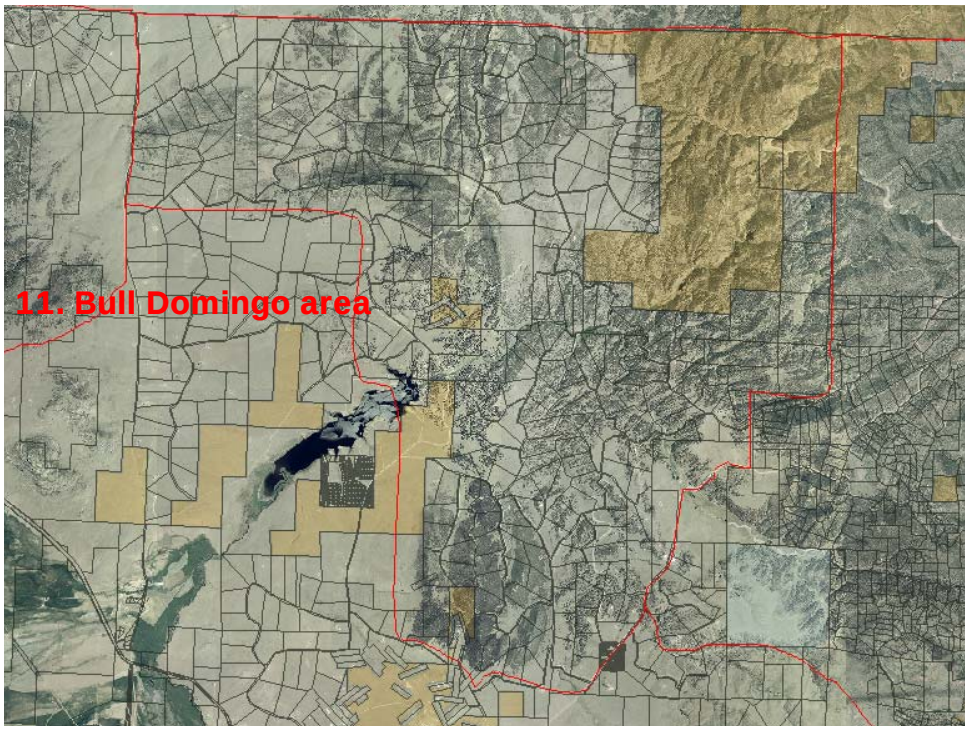


#10. Reed Road aerial photo

Reed Road area --- FIRE MODEL

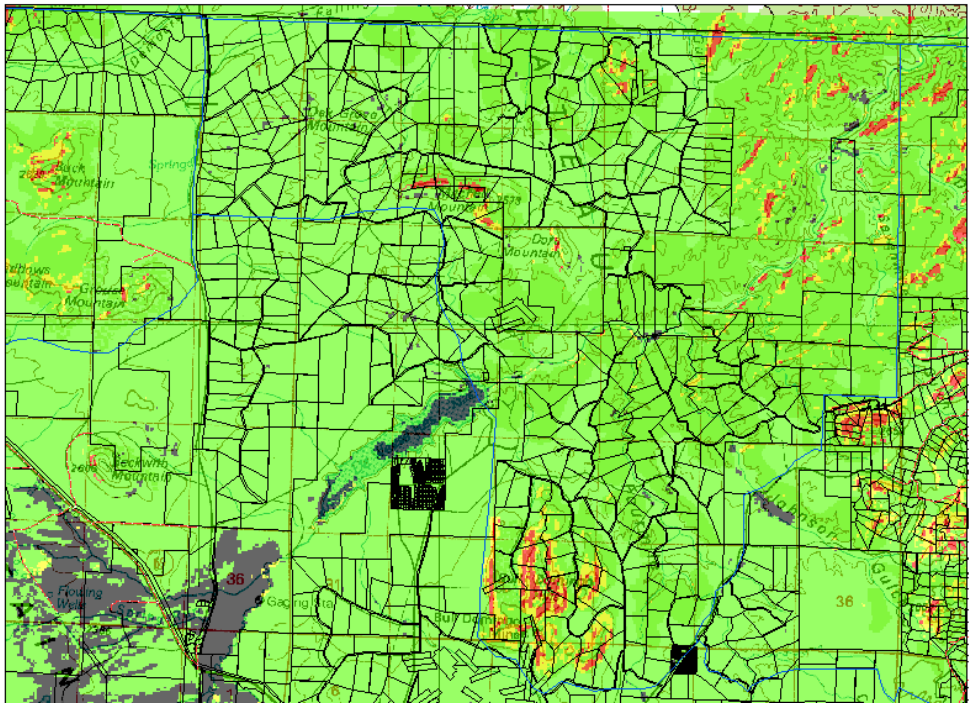


#10. Reed Road has several red zones, and its density area north of Reed Road has steep and difficult roads and over-dense trees. Water source on Texas Creek needs development. Larger lot subdivisions have good meadows as breaks and escape zones, but need emergency escape route developed East. Note some extreme red zones on some lots in dense trees and steep terrain.



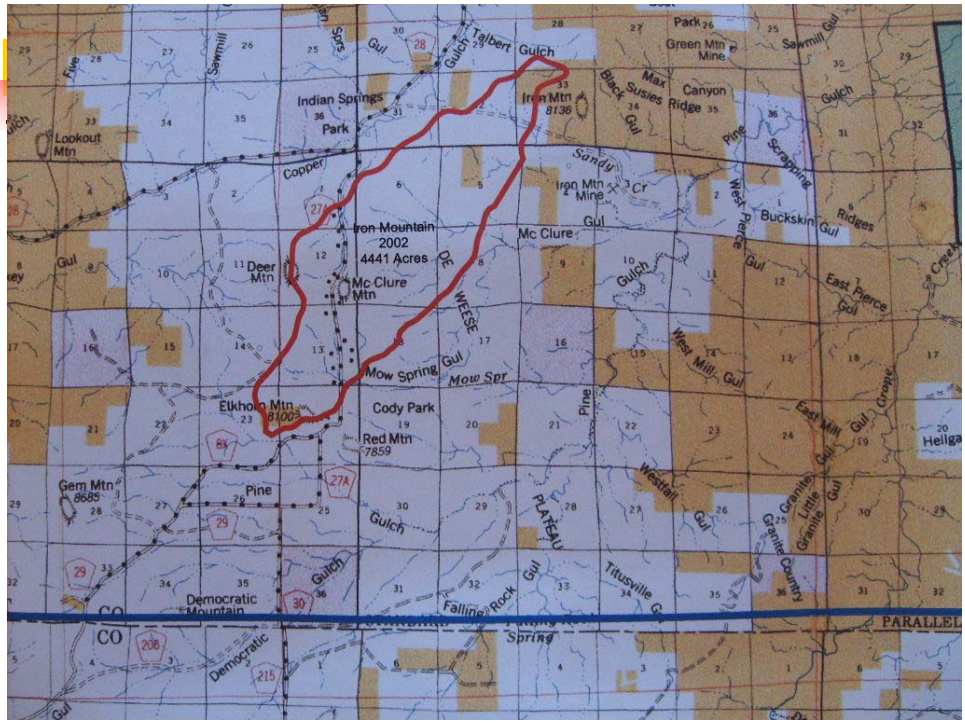
#11. Bull Domingo Area aerial photo

Bull Domingo area – FIRE MODEL



#11. Bull Domingo Area has numerous loop roads, but confusing access system. Good meadows create firebreaks and escape zones, but continuous overly dense trees and brush in some areas are extreme fire hazard similar to Iron Mountain Fire north of this neighborhood. Red zones on steep slopes need fuel reduction. Many homes need defensible space and meadow enlargements.

Iron Mtn. – 2002 – 4,439 acres



The Iron Mountain Fire, June 2002.

North of Custer County, next to Cody Park, the sister subdivision to Custer County's Bull Domingo. This fire swept across terrain and pinon-juniper-pine similar to the Bull Domingo Area of Custer County.

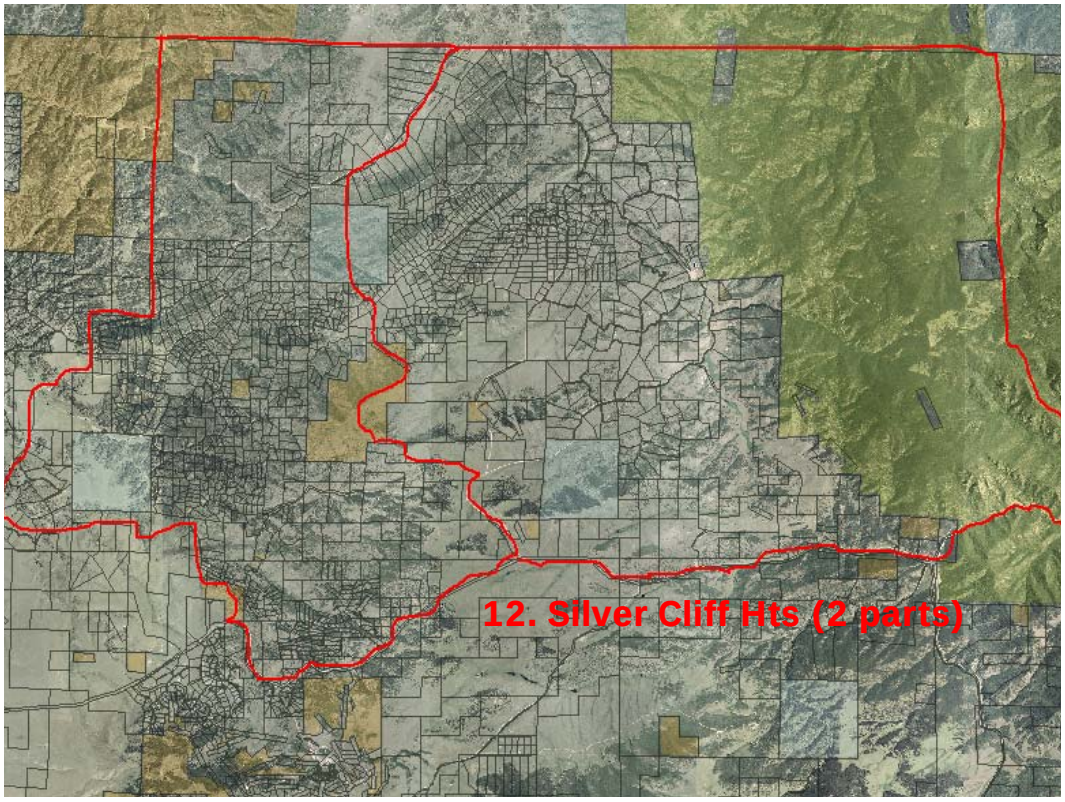
History. Started from a turned-over barbeque pit fire, and was driven by high southwest winds in a mixture of pinon, juniper, grass, oak brush, and ponderosa pine.

Damage. Burned 4,439 acres, 100 homes and 100 outbuildings, mostly on private land.

Lessons learned. This fire jumped major openings and a wide county road due to firebrands being thrown ahead of the ground fire by fire windstorms.

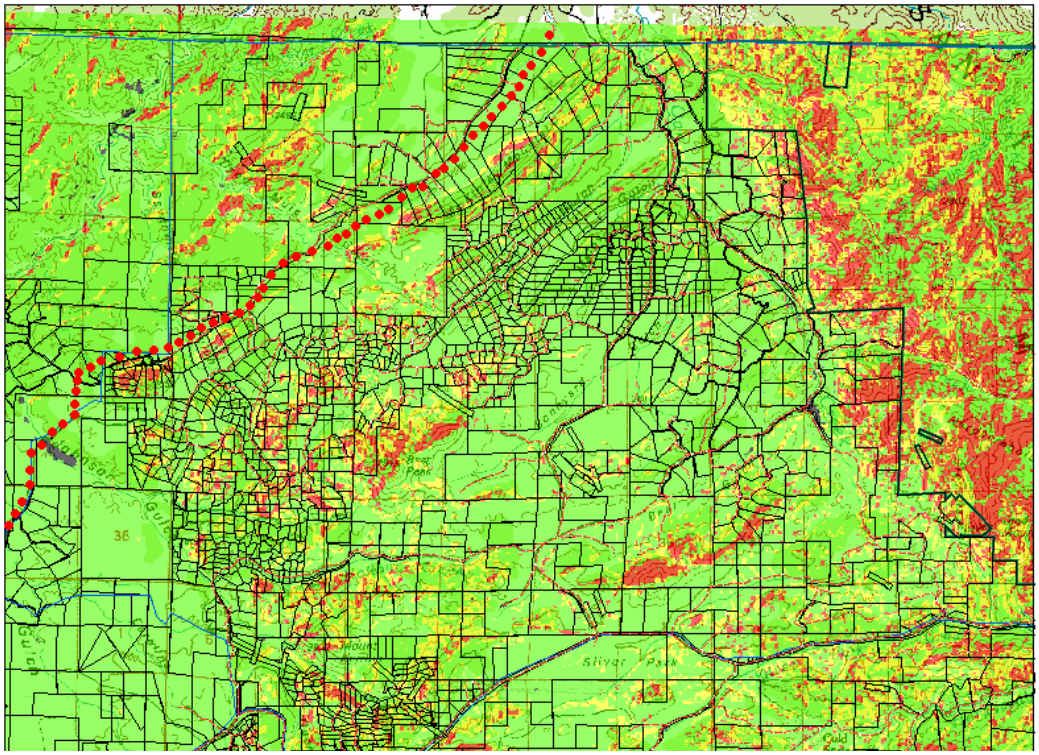
Costs. Approximately $1,918,000 for fire suppression, or about $432 per acre.

The Iron Mountain Fire burned homes and forests

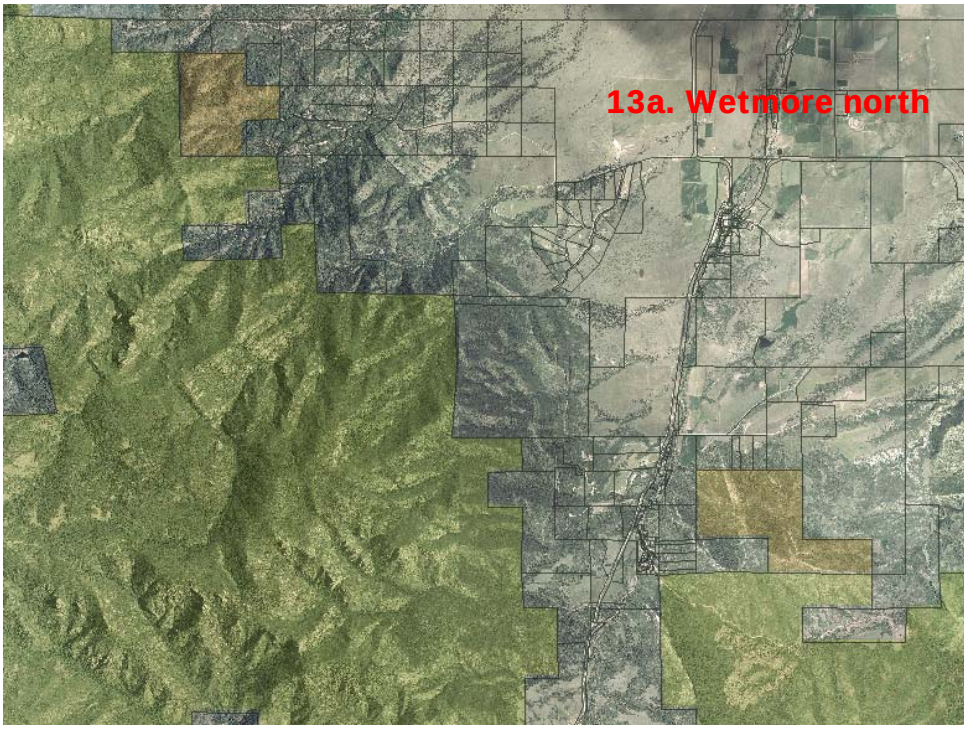


#12. Silver Cliff Heights Area aerial photo

Silver Cliff Heights – all parts – with POWERLINE – FIRE MODEL

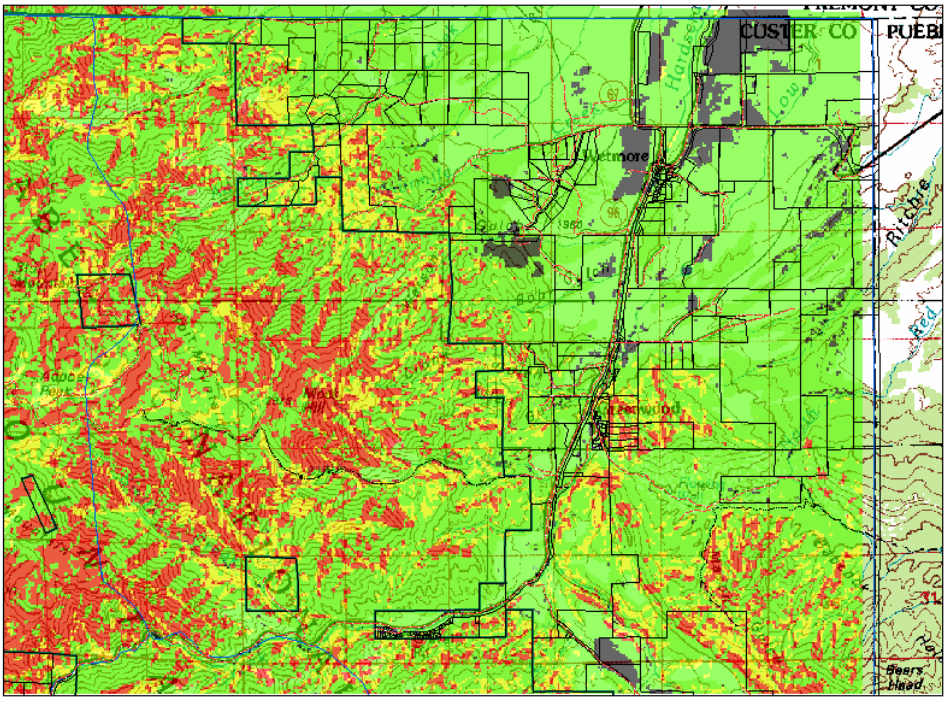


#12. Silver Cliff Heights Area has southwest alignment coinciding with prevailing winds and aiming possible fire path through intermittent private forests to extreme forest red zones in National Forest. Some loop roads. Main powerline to the Wet Mountain Valley is at risk (red dots.) Few water sources – so more need identification and improvement.

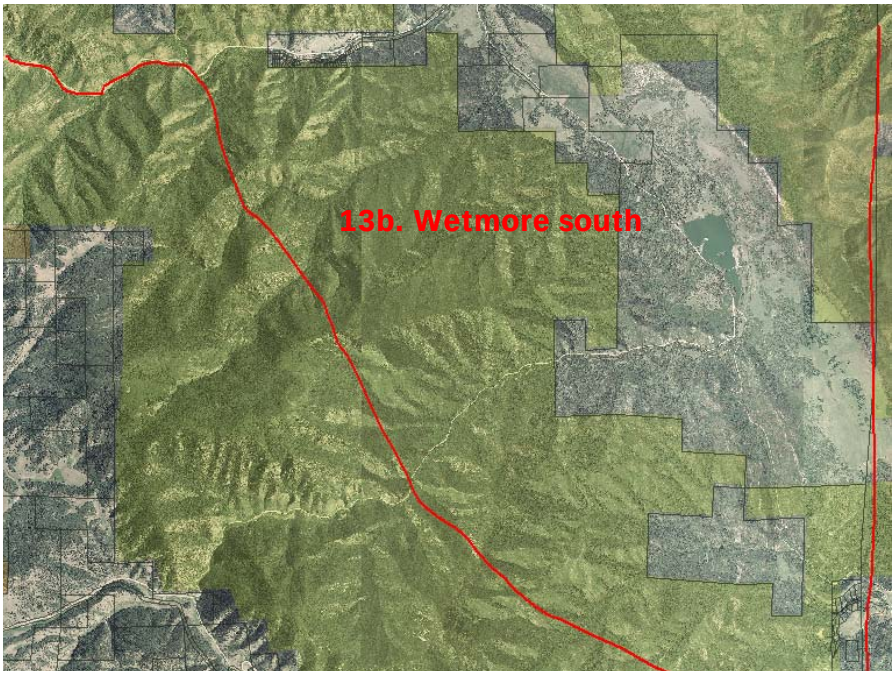


#13a. Wetmore North aerial photo

Wetmore – north part – FIRE MODEL

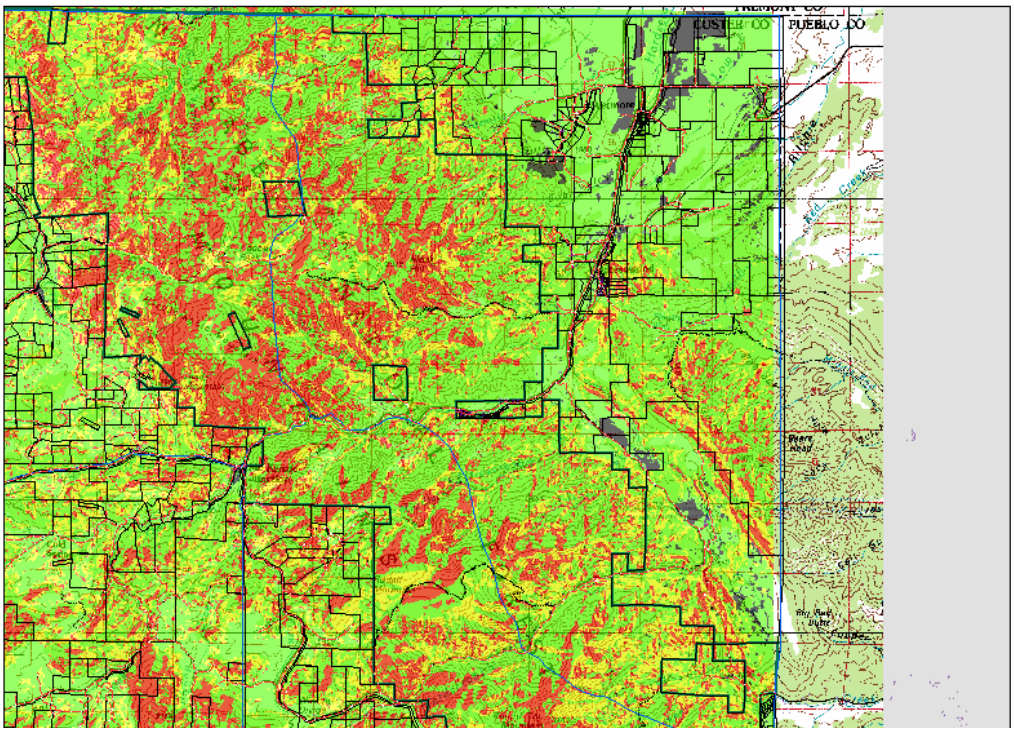


#13a. Wetmore North has extreme red zones in the mountains adjacent to private land, and the southeast corner is part of the Mason Gulch Fire showing extreme fire history. Parcel density is not high, but fuel treatment needs action.



#13b. Wetmore South aerial photo

Wetmore, entire area --- FIRE MODEL



#13. Wetmore is on the seemingly safer, prevailing southwest downwind side of the Wet Mountains, but the Mason Gulch Fire (southeast of Greenwood) demonstrated a northwest wind could drive a huge wildfire to the southeast. Buffer zones of forest treatment are needed along the National Forest Boundary, on both public and private land.

Mason Gulch – 2005- 11,357 ac.

The Mason Gulch Fire, July 2005.

Started in Custer County near Greenwood and spread into Pueblo County.

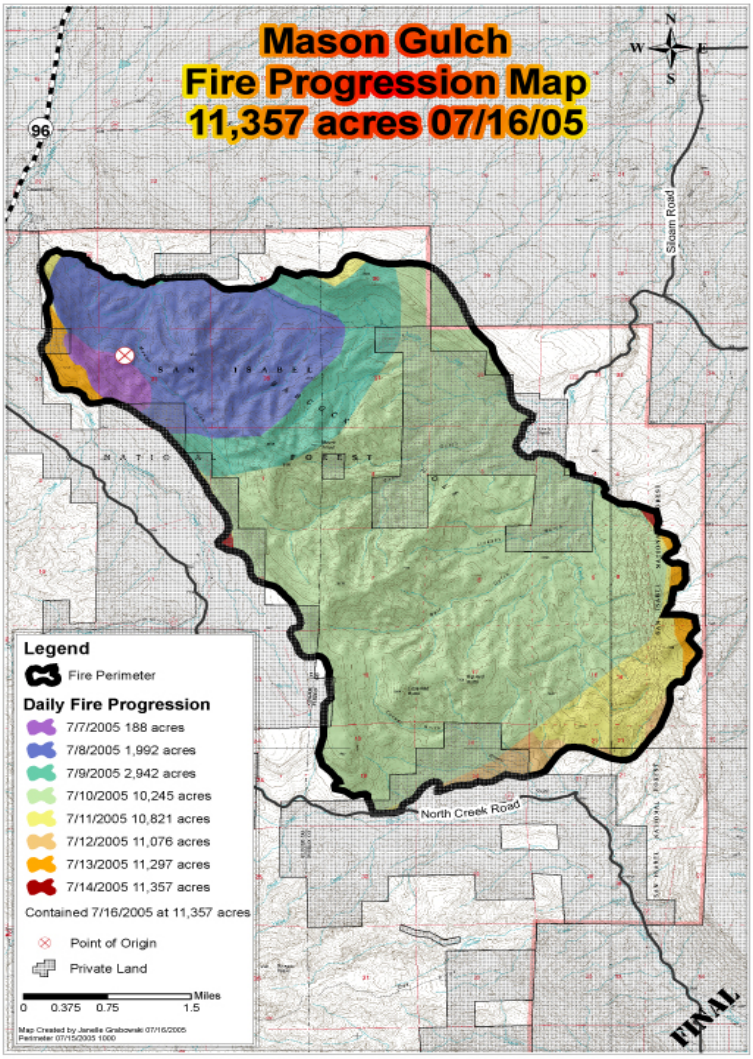
Fire history: Started by lightning in heavy fuels (oakbrush, ponderosa pine with heavy dead fuels, and mixed conifer) and very steep terrain.

Damage: no structures lost. Total acres, 11,357. USFS lands 9,124 acres. Private 2,233 acres burned. Also threatened the town of Beulah. Total suppression costs were $5,525,851, or about $487 per acre. Whole forested watersheds were burned.

Lessons learned: Hydro-mowed, thinned areas near Greenwood stopped fire spread. The fire also demonstrated that with high winds, fire can spread perpendicular to mountain and watershed alignments. The fire also was driven by a northwest wind, not the normal prevailing southwest wind.

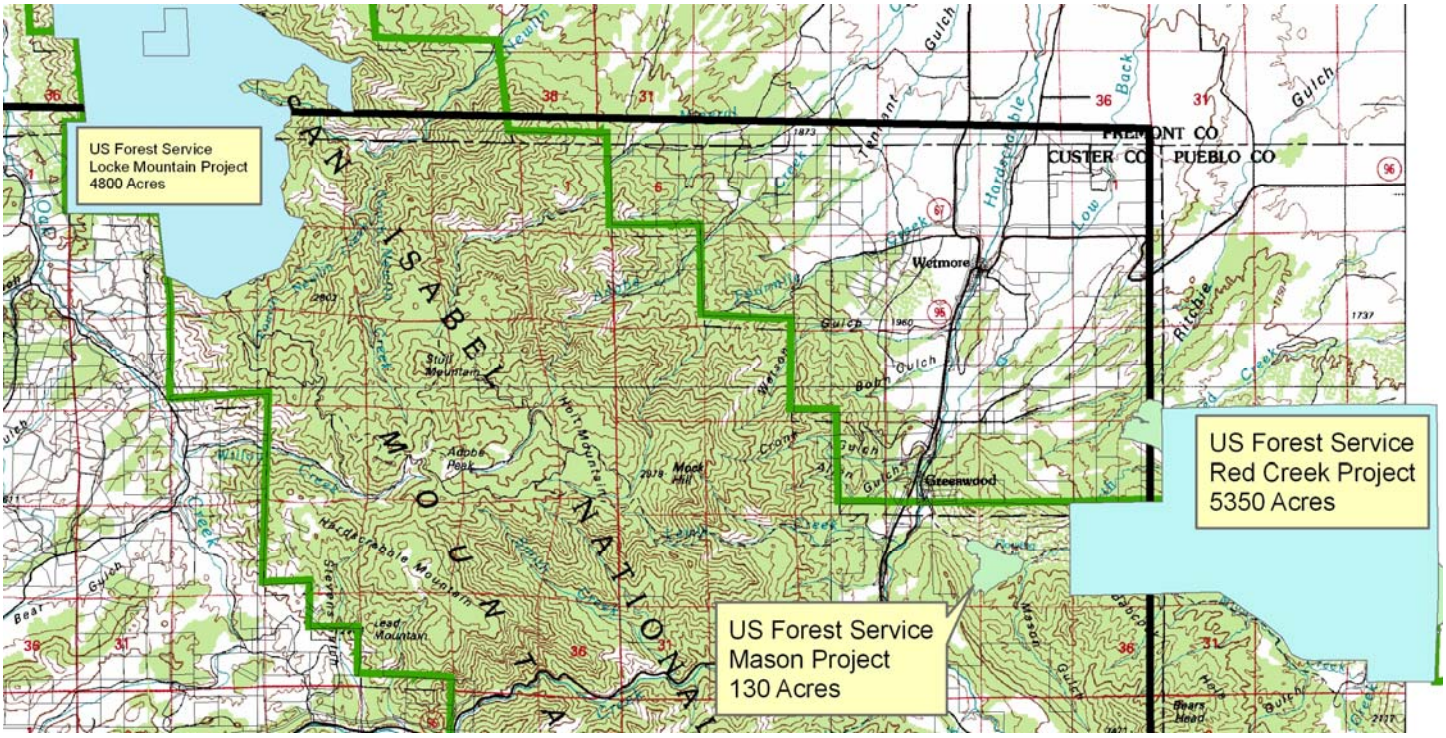
Impact on watersheds. Extreme erosion and high water flows have been experienced yearly downstream in 2006 and 2007.

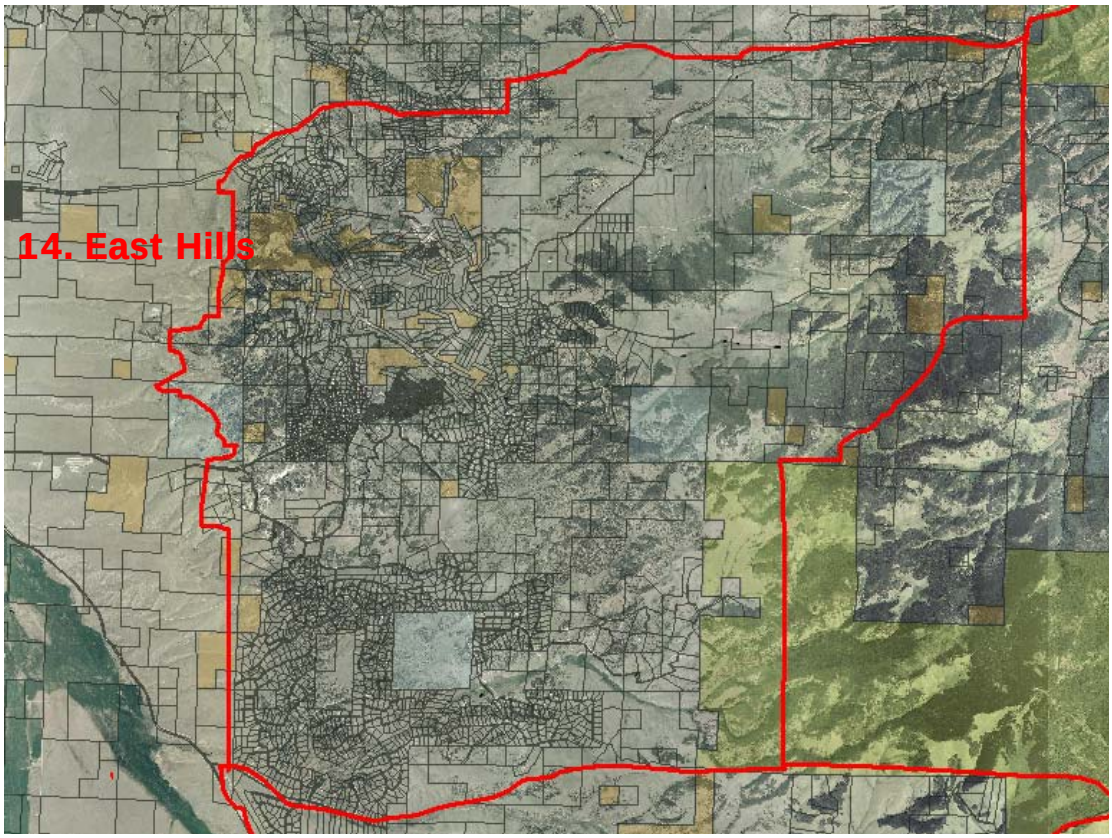
Mason Gulch Fire



Wetmore Area – USFS Projects

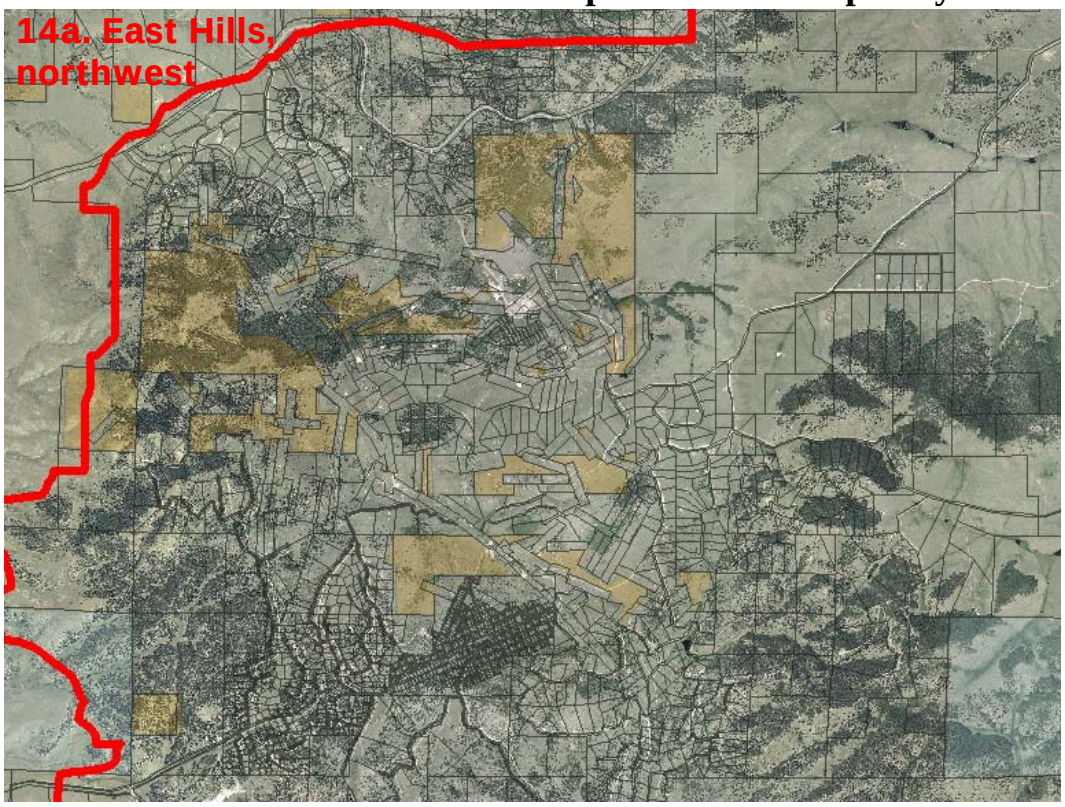
a. **Locke Mountain (including Fremont and Custer Counties)—in planning stages.**
b. **Mason Project – Completed tree thinning and brush control treatment helped protect Greenwood in the Mason Gulch Fire.**
c. **Red Creek Project – in progress over many years, fuel treatments.**



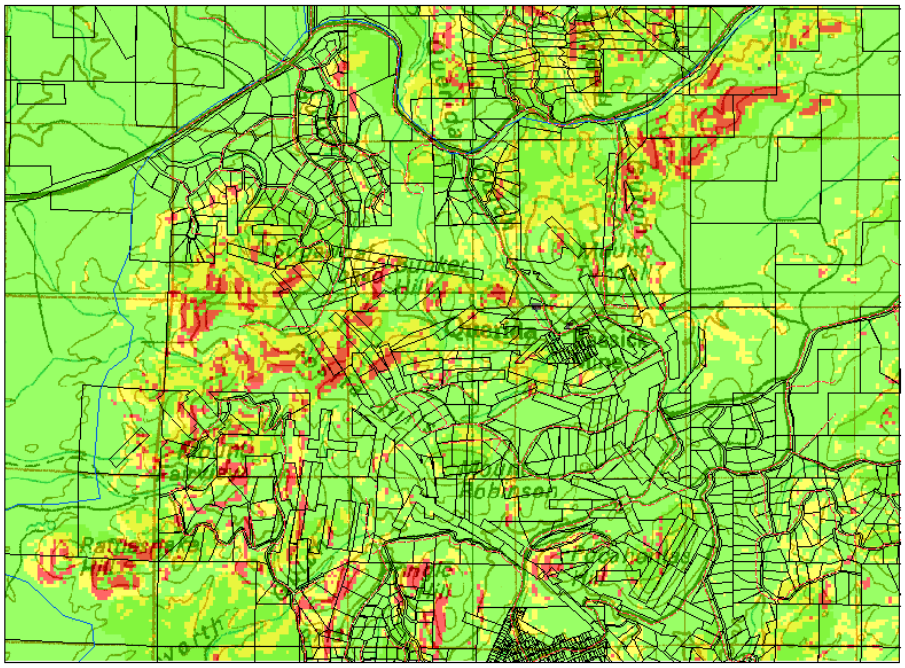


#14. East Hills aerial photo. Dark shaded area is town of Rosita. \

#14a. East Hills Northwest aerial photo. Center top is Tyndall Fire.

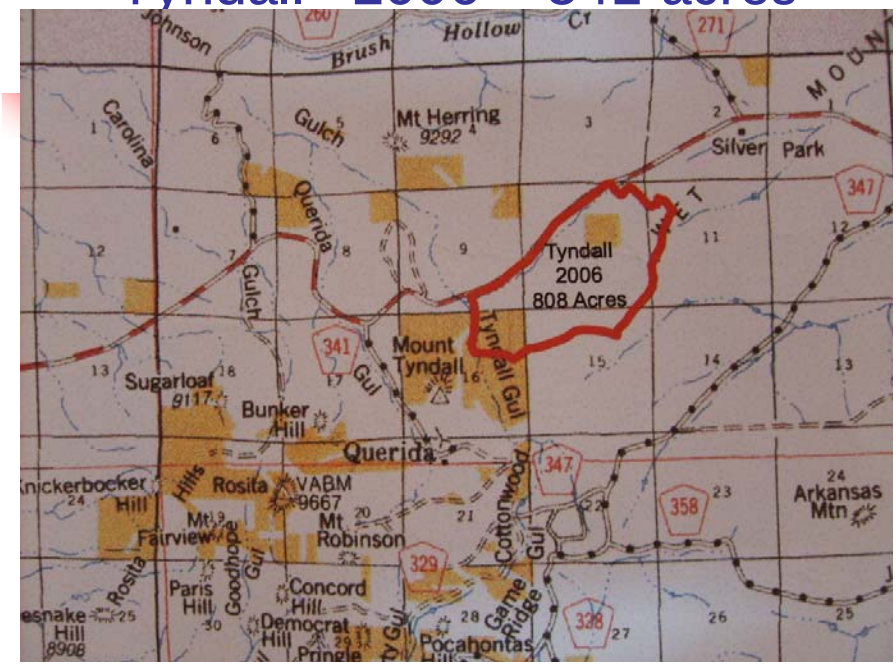


East Hills – northwest – FIRE MODEL



Top right red zone is the Tyndall Fire.

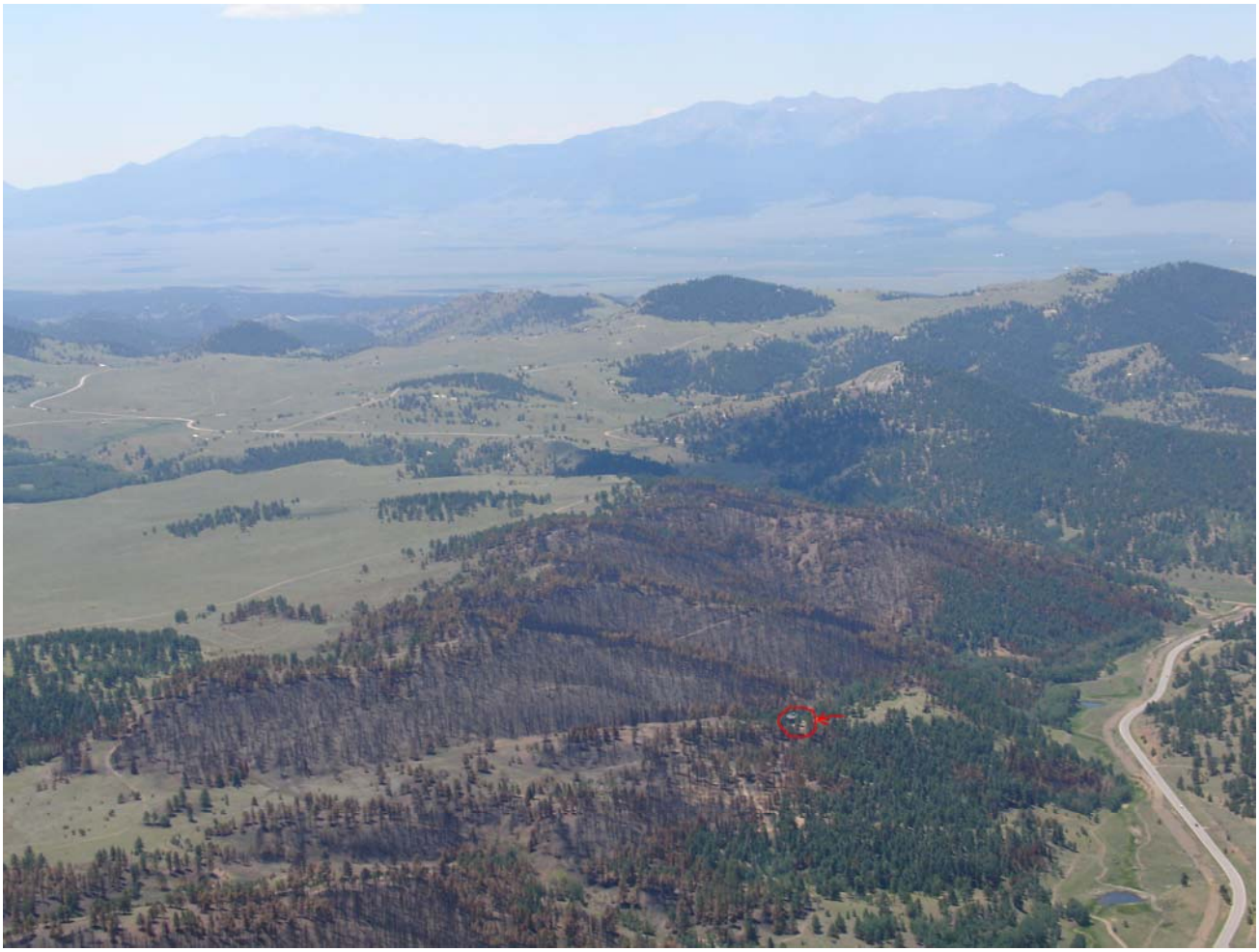
Tyndall –2006 – 541 acres



Tyndall Gulch Fire, June 2006. Suppression cost: $518,127.

Started from a dead tree blown by high wind into a powerline on BLM land. High southwest wind took fire northeast, just as fire model predicts. This is a verification of the fire model, and warning that mapped red zones are potentially very real and hazardous. Damage to 541 acres; three homes in and adjacent to the fire were protected. Cost per acre = $958.

Lessons learned: Tall and unstable trees within reach of a powerline are high hazard/risk, so powerline protection must include more than easement tree trimming.

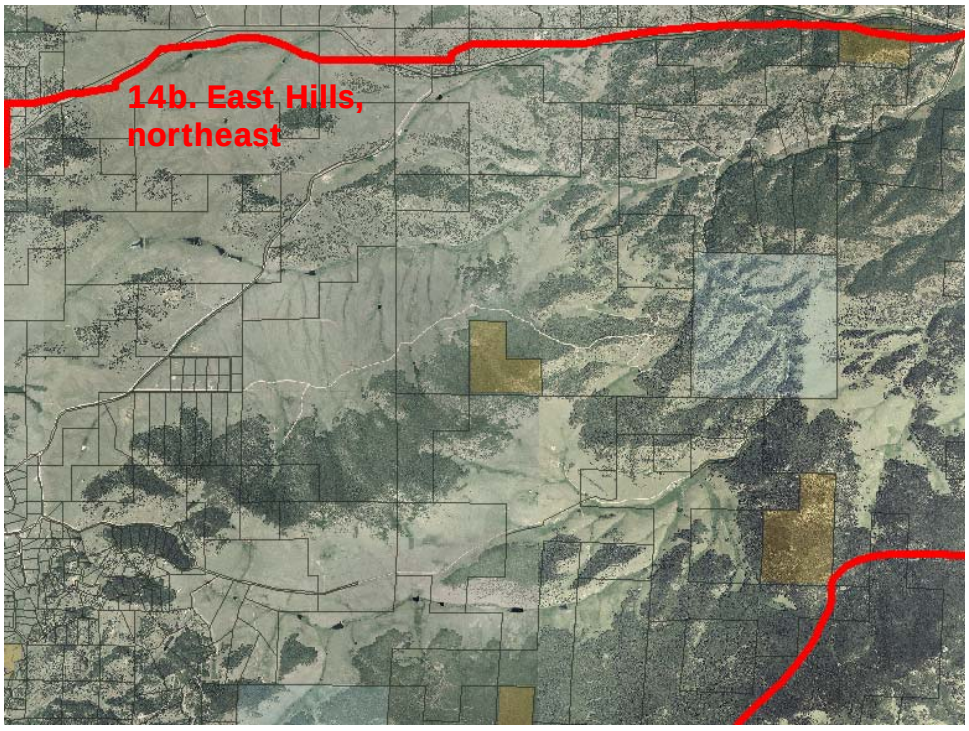


Tyndall Gulch Fire, 2006.

Red circle indicates home that escaped the fire due to openings around it.

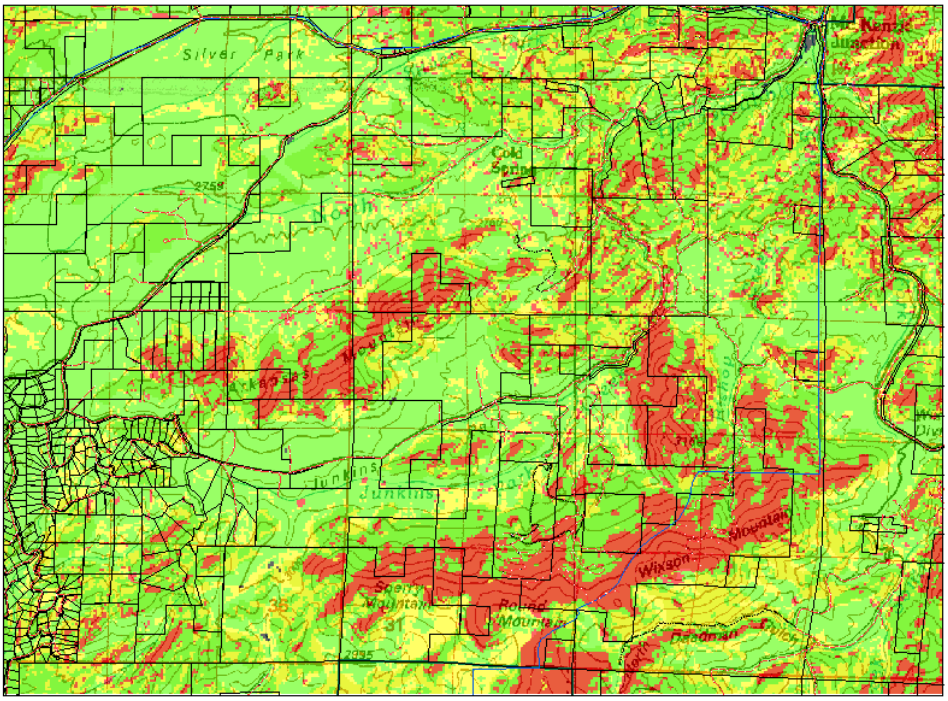
Burned steep slopes with heavy forest closely match the fire behavior model (see previous map.) Note that interspersed and surrounding larger meadows served as firebreaks.

Tyndall Gulch Fire

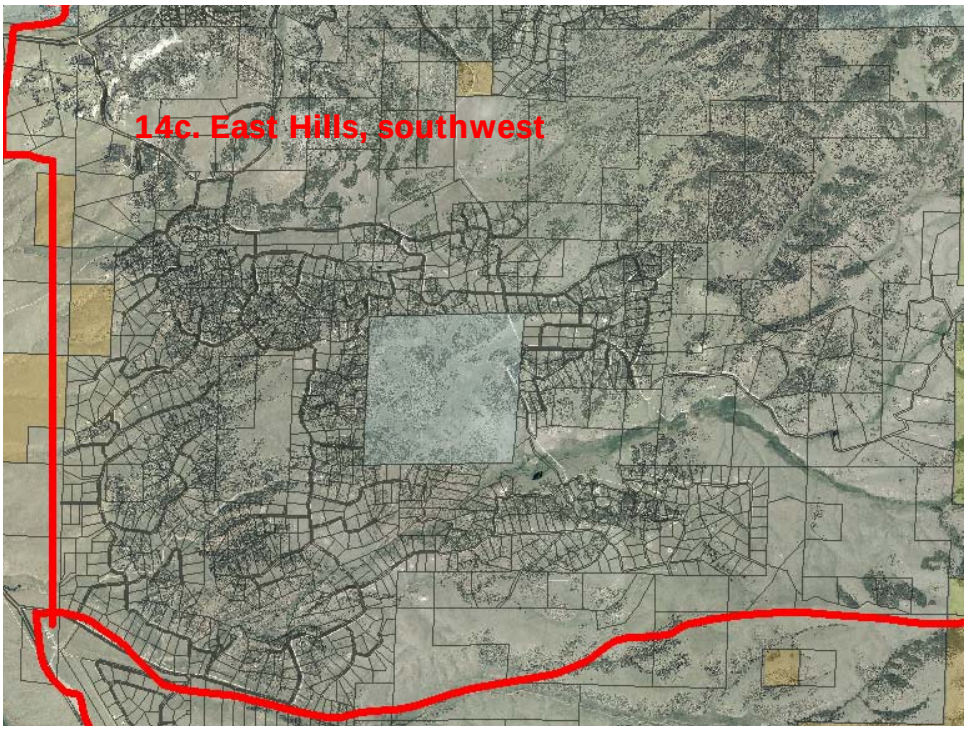


#14b. East Hills, Northeast aerial photo.

East Hills – northeast – FIRE MODEL

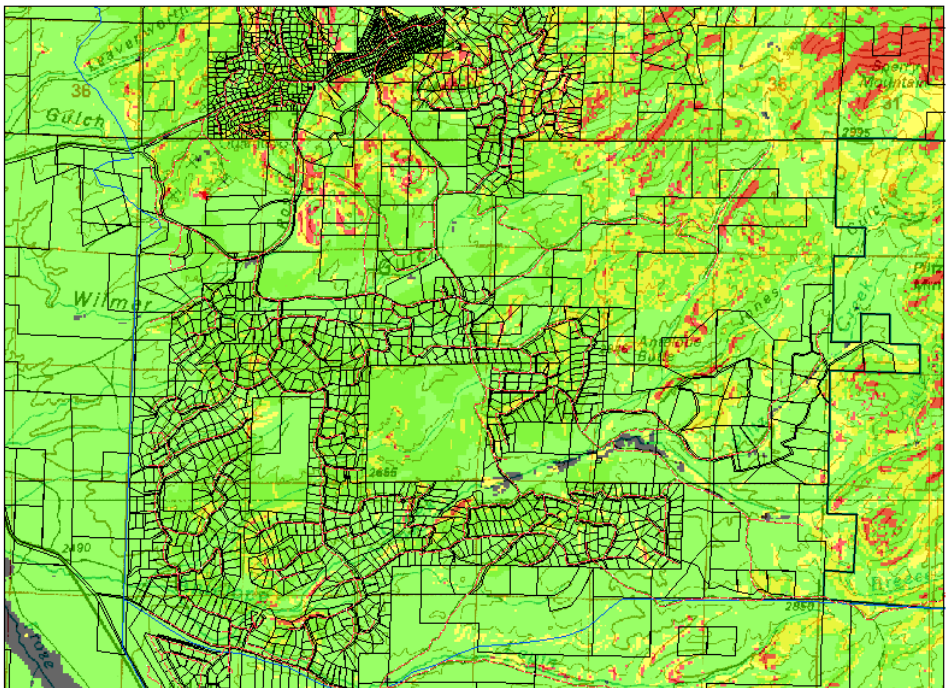


#14b. East Hills, Northeast shows red zones on steeper hills/ mountains in areas recently subdivided for homes. Not a high-density parcel area, but local fuel modification is needed.



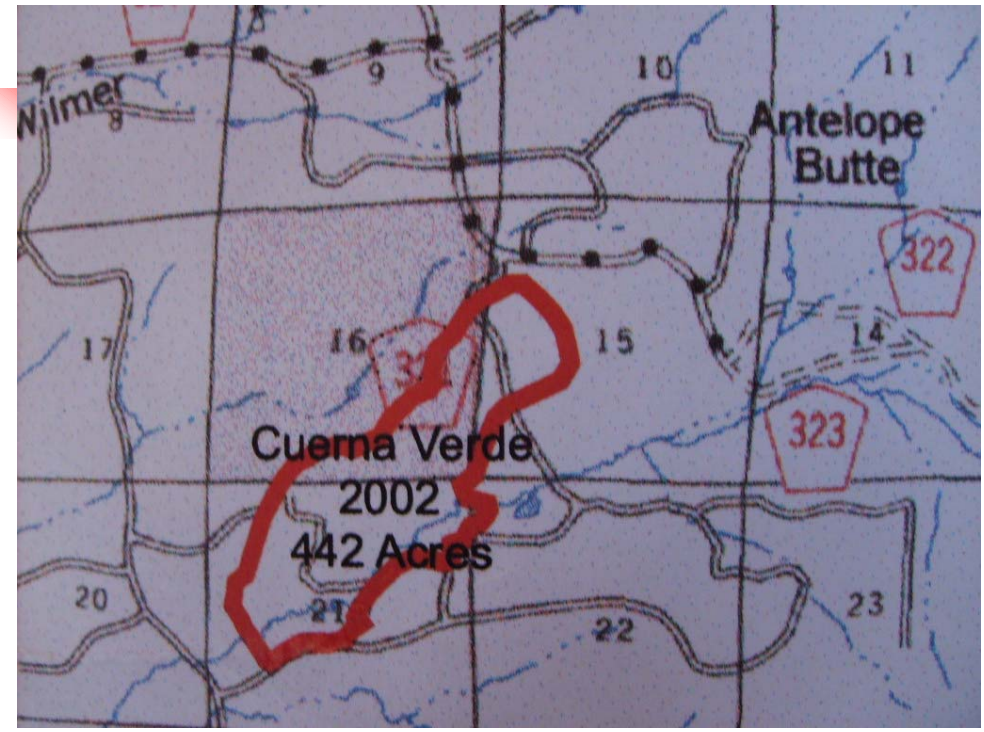
#14c. East Hills, Southwest aerial photo

East Hills – southwest – FIRE MODEL



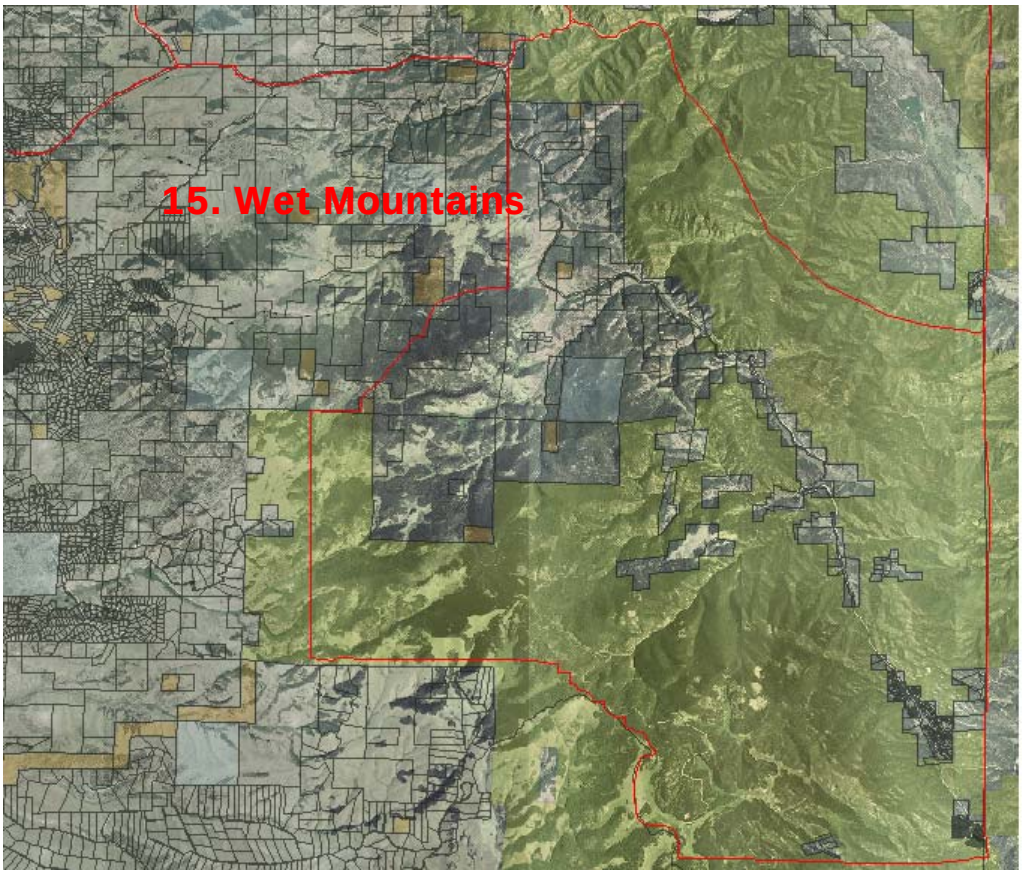
#14c. East Hills, Southwest, is south of Town of Rosita. Note small red zones – some coincide with the Cuerno Verde Fire south of State School Section 16.

Cuerno Verde – 2002- 442 ac



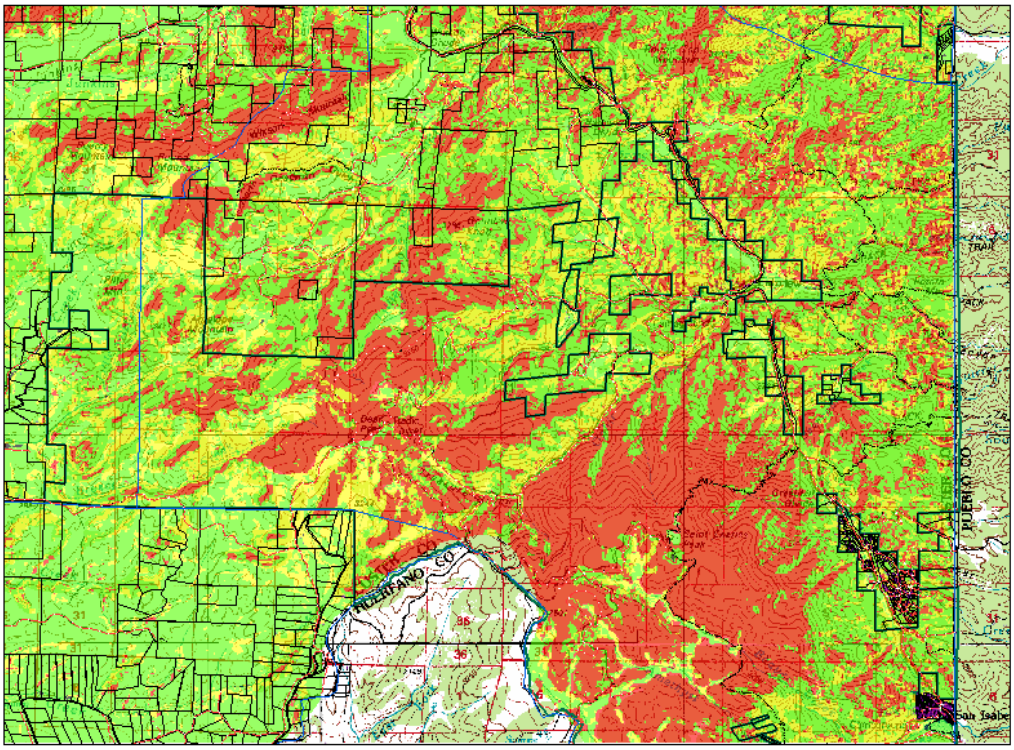
Cuerno Verde Fire, 2002.

Located in and south of Section 16, State School Section, in Cuerno Verde subdivision. Two cabins destroyed. Started from trash fire at southwest corner of above fire map, and blown by high southwest wind uphill across grassland into dense pine forests in very dry conditions. Included some red zones predicted by the fire model. A large meadow helped contain the fire.



#15. Wet Mountains aerial photo

Wet Mountain – entire area – FIRE MODEL



15a. Wet Mtn Density Area – Aspen Acres – North

#15a. Wet Mtn Densitiy Area – North – aerial photo

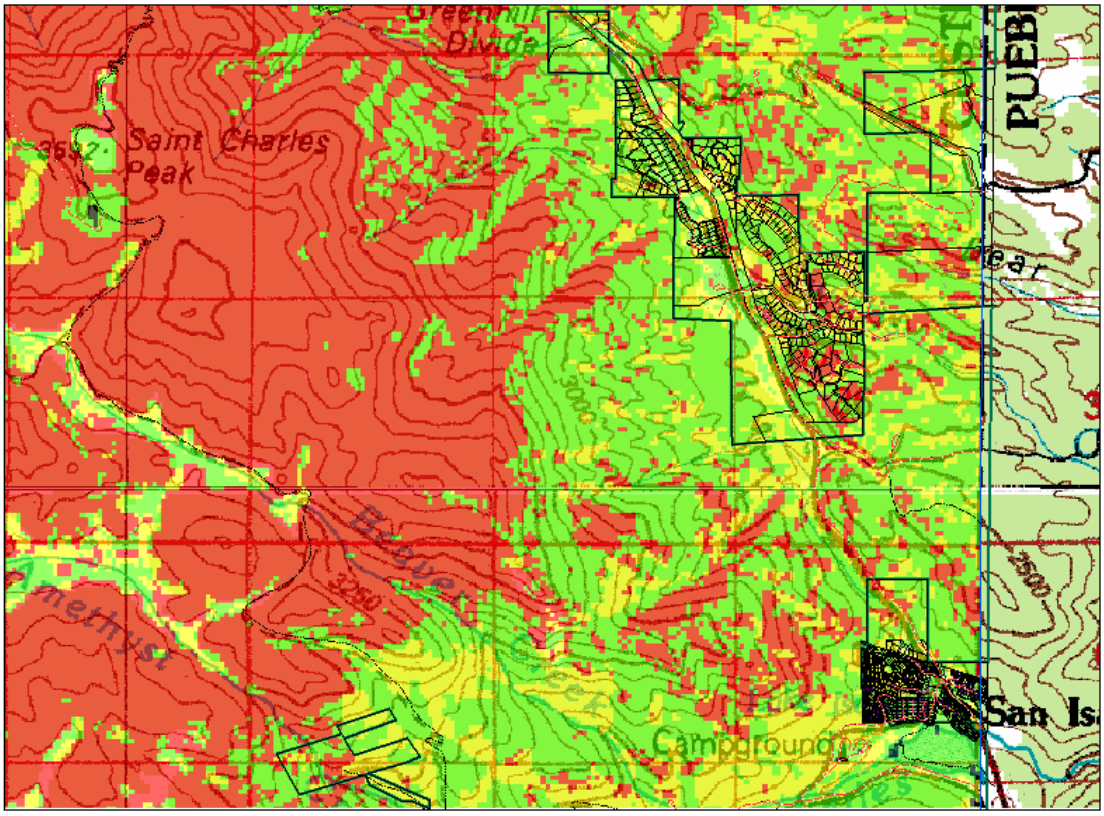
15b. Wet Mtn Density Area – Aspen Acres – South

#15b. Wet Mtn Density Area – South – aerial photo

15c. Wet Mtn Density Area – San Isabel

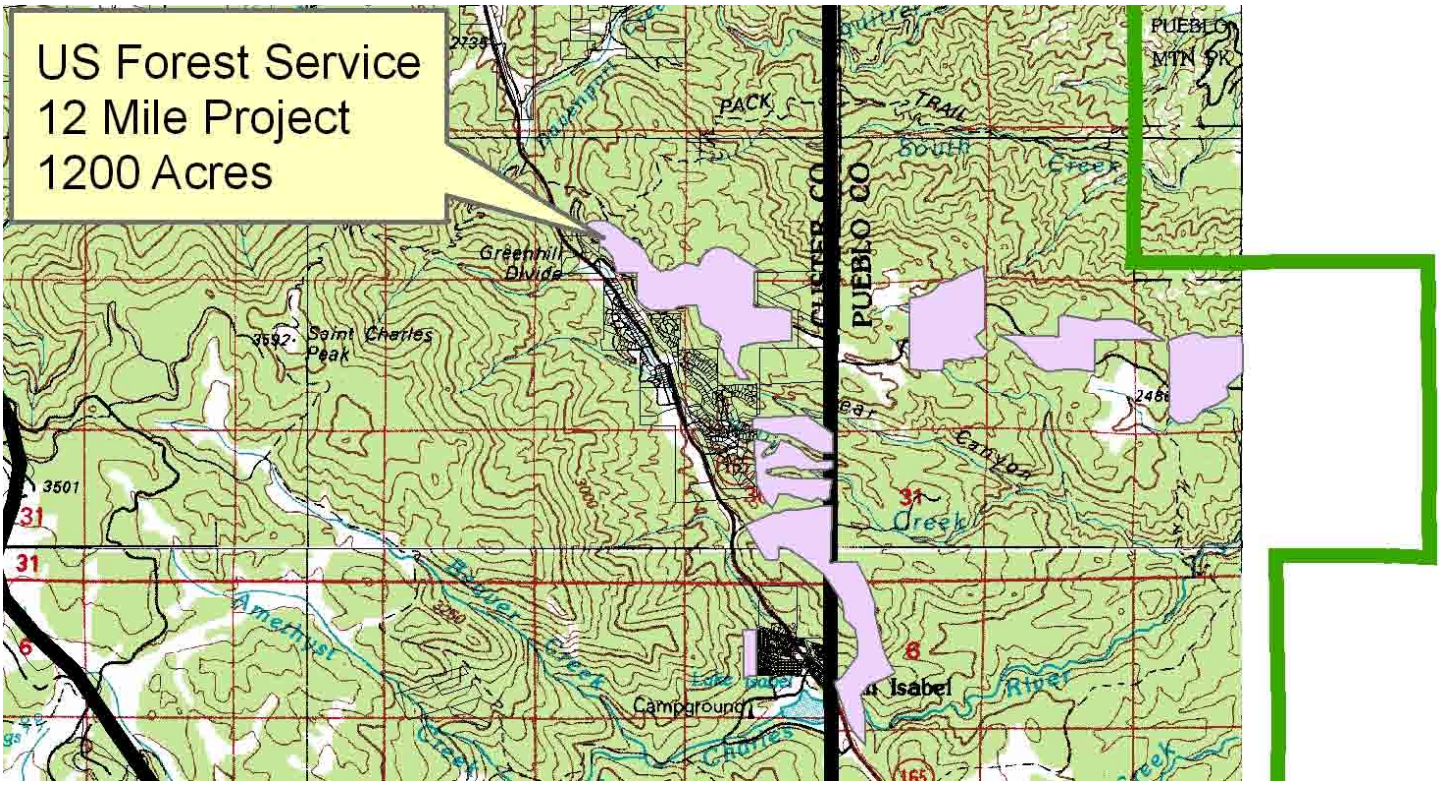
#15c. Wet Mtn Density Area – San Isabel – aerial photo

Wet Mountain – southern density area – FIRE MODEL



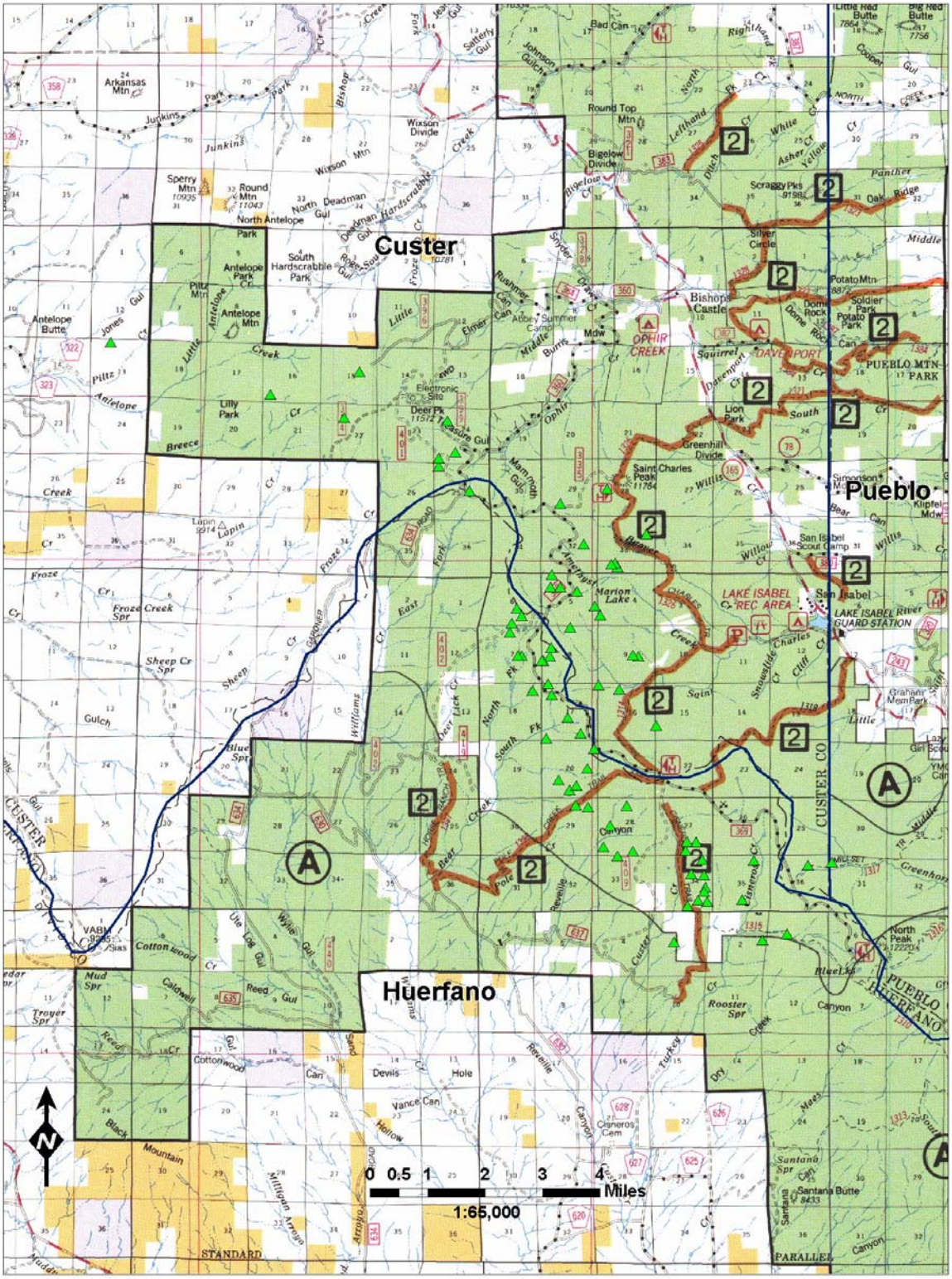
#15. Wet Mtn all Density Areas – Prominent adjacent National Forest red zones.

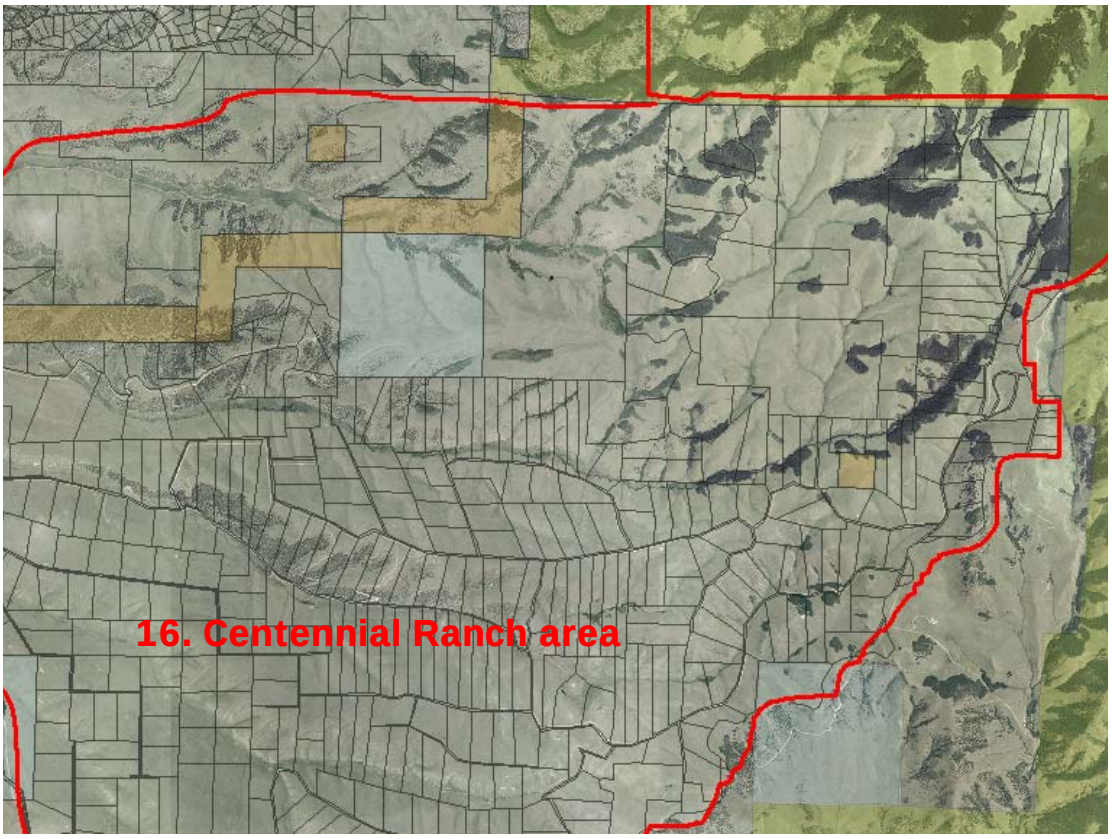
Wet Mountain density areas
USFS Project Areas
-- in planning stages, and includes Custer and Pueblo Counties



Note that these fuel treatment projects are near or adjacent to the highest priority fire hazard area identified in this CWPP.

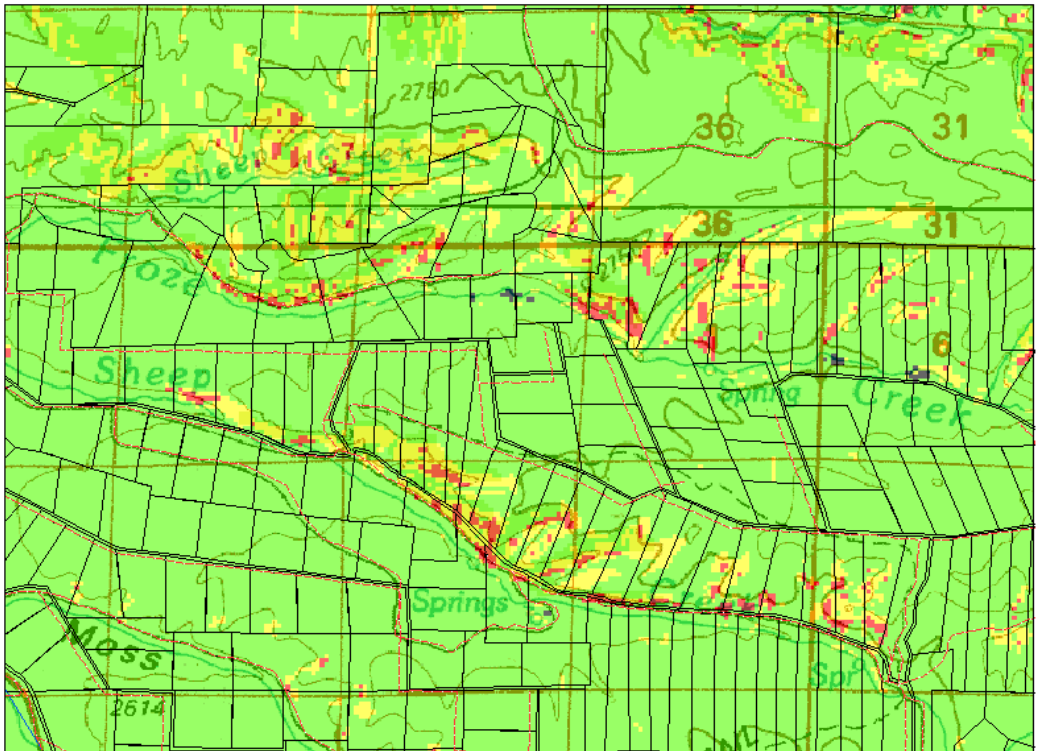
Wet Mountain Area– south –USFS Greenhorn Mountain Blowdown of 2007.
See locations mapped as small triangles. – Some 300 acres of blowdown may exist in Custer and Huerfano Counties. This forest condition may warrant immediate action to mediate fire hazard and possible insect outbreaks in another part of the highest fire hazard area identified in Custer.





#16. Centennial Ranch area, aerial photo

Centennial Ranch – treed areas – FIRE MODEL



#16. Centennial Ranch treed areas show numerous red zones in pinon-juniper forests. SEE FURTHER ITEMS IN APPENDICES