EASTERN GREATER JEMEZ WILDLAND/URBAN INTERFACE CORRIDOR

Firewise Communities/USA Pilot Project

Prepared for

Eastern Greater Jemez Wildland/Urban Interface Corridor
Firewise Board

By
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FIREWISE COMMUNITIES/USA

Pilot Project

Eastern Greater Jemez Wildland/Urban Interface Corridor

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The Firewise Communities/USA program is designed to provide an effective management approach for preserving wildland living aesthetics. Participating in this educational program gives communities like the Eastern Greater Jemez Wildland/Urban Interface (WUI) Corridor a means to balance sustainable ecological lifestyles with effective wildland fire protection.

The Firewise Communities/USA pilot project seeks input from participating communities and agencies regarding modifications that can be made which will make this recognition program more effective. The Firewise Communities/USA program can be tailored for adoption by any community and/or neighborhood association that is committed to ensuring its citizens maximum wildfire protection. The Firewise Communities/USA plan should be implemented in a collaborative manner, and updated and modified as needed.

This community assessment is intended as a resource that can be used by Jemez-area residents in the creation of a wildfire protection plan. It was prepared by a team representing the National Wildfire Coordinating Group and Firewise Communities/USA that included Jack Cohen, Research Scientist for the Intermountain Fire Sciences Laboratory, USDA-Forest Service and Judith Leraas Cook of the National Firewise Communities/USA program.

EASTERN GREATER JEMEZ WILDLAND/URBAN INTERFACE CORRIDOR
COMMUNITY ASSESSMENT
Firewise Communities/USA Pilot Project

The Eastern Greater Jemez WUI Corridor is located in a wildfire environment. This means that fire occurs there, as a natural phenomenon. Its residents have no choice in the matter. The variables in the wildfire scenario are when the fire will occur, and where. This community assessment addresses the wildfire-related characteristics of the Corridor. It examines the area's exposure to wildfire as it relates to the community's ignition potential. The assessment does not focus on specific homes, but examines the community as a whole.

Included in this assessment are observations made while visiting the Corridor. The assessment addresses the ease with which home ignitions can occur under severe wildfire conditions and how these ignitions might be avoided within the home ignition zones of Corridor residents.

A house burns because of its interrelationship with everything in the home ignition zone---the house and its immediate surroundings. The condition of the home ignition zone is the determining factor regarding its ignition potential during a wildfire, and includes the house and those things surrounding it within 100 to 150 feet. To avoid a home ignition, a homeowner must eliminate the fire's potential relationship with his/her house. This can be accomplished by interrupting the natural path a fire takes. Changing a fire's path by clearing a home ignition zone is an easy-to-accomplish task that can result in avoiding home loss. To accomplish this, flammable items such as dead vegetation must be removed from the area immediately around the structure to prevent flames from contacting it. Also, reducing the volume of live vegetation will affect the intensity of the wildfire as it enters the home ignition zone.

The result of the community assessment is that fuels were highlighted as a concern. The good news is that Corridor residents can take actions that carry little or no cost and will substantially reduce the quantity of fuels surrounding their houses. Very small investments of time and dollars will reap great rewards in wildfire protection.

DESCRIPTION OF [SIZE AND NATURE OF] THE SEVERE CASE WILDLAND FIRE CHARACTERISTICS THAT COULD THREATEN THE AREA

Fire intensity and spread rate depend on the fuel type and condition (live/dead), the weather conditions prior and during ignition, and the topography. Generally that following relationships hold between the fire behavior and the fuel, weather, and topography.

- Fine fuels ignite more easily and spread faster with higher intensities than coarser fuels. For a given fuel, the more there is and the more continuous it is, the faster the fire spreads and higher the intensities. Fine fuels take a shorter time to burn out than coarser fuels.

- The weather conditions affect the moisture content of the dead and live vegetative fuels. Dead fine fuel moisture content is highly dependent on the relative humidity and the degree of sun exposure. The lower the relative humidity and sun exposure, the lower will be the fuel moisture content. Lower fuel moistures produce higher spread rates and fire intensities.

- Wind speed significantly influences the rate of fire spread and the fire intensity. The higher the wind speed, the greater the spread rate and intensity.

- Topography influences fire behavior principally by the steepness of the slope. However, the configuration of the terrain such as narrow draws, saddles, etc. can influence fire spread and intensity. In general, the steeper the slope, the higher the uphill fire spread and intensity.

The principal fuel types involve Ponderosa pine forest, mixed conifer forest that includes Ponderosa pine, Douglas fir, white fir, and spruce, conifer forest with aspen, and pinyon-juniper with associated shrub species. The Jemez Springs area of assessment is largely covered by dense, closed canopy conifer forest of a type previously identified. These forests in conjunction with narrow canyons, steep terrain and yearly periods of severe to extreme fire conditions (e.g. >40 deg F, <20% RH, and >20 mph steady wind speed) combine to produce the potential for rapidly spreading, high intensity crown fires with high levels of firebrand (lofted burning embers) spot ignitions down wind (as much as a mile) from the high intensity fire. Some areas (e.g. locations in La Cueva) have sufficient aspen cover to break the dense conifer continuity. The aspen stands do not produce high intensity crown fires and thus offer a break in the crown fire spread. Under current conditions, the Jemez Springs area can potentially experience the same extreme burning situation as demonstrated by the May 2000 Cerro Grande Fire.

SITE DESCRIPTION

The Eastern Greater Jemez Wildland Urban Interface Corridor consists of six distinct communities within the Santa Fe National Forest and Sandoval County boundaries. They include Seven Springs, La Cueva, Thompson Ridge Estates, Sierra Los Pinos, Cochiti Mesa and Jemez Corridor. The Greater Jemez WUI Corridor is identified by the State of New Mexico as one of its twenty communities at high risk to the threat of wildland fire. The USDA-Forest Service is engaged in aggressive fuel reduction programs on Forest Service lands surrounding much of the Corridor.

- Seven Springs is a community of 87 homes, of which approximately one quarter are lived in year round. Located less than one mile north of Fenton Lake State Park, recreation use there produces an extreme potential threat of wildfire to the Seven Springs community. Its northwest slopes have a mixed conifer vegetation, with the rest being Ponderosa pine.

- La Cueva contains over 200 homes, including the Sulphur Flats subdivision, of which 75% are year round residences. Surrounded by heavily-used recreation areas and approximately eight miles north of Jemez Springs, this area a very high risk of wildfire.

- Thompson Ridge Estates has over 75 homes on 120 lots. Approximately 20 percent have permanent residents, giving it a population of about 85 people. Located adjacent to heavily used recreation areas, this community is also subject to lightning-caused fires and averages three of those a year.

Seven Springs, La Cueva and Thompson Ridge Estates depend on the La Cueva Volunteer Fire Department (VFD) for structural fire protection and the Jemez District of the Santa Fe National Forest for the initial attack phase of wildland fire protection. None of the areas has a developed fire protection water system.

- Sierra Los Pinos contains over 100 homes, over three quarters of which are year round residences. Many residents are Los Alamos employees, as is true in Cochiti Mesa. Approximately eight miles east of the La Cueva community along State Highway 4, this area is subject to a high volume of recreational use and has an average of three lightning-caused fires each year. It has its own community water supply. The vegetation is chiefly mixed conifer and aspen clones appear in the damper areas.

- Cochiti Mesa has 35 homes, thirty percent of which are year round residents. This community is located south of State Highway 4 and the Valles Caldera National Preserve, within two miles of both the La Mesa Fire and the Dome Fire. It is accessed by crossing National Park Service and Forest Service lands from the state highway. It is subject to fires caused by recreationists and lightning.

- The Jemez Corridor contains over 100 homes located along State Highway 4 in four subdivisions directly up the canyon from Jemez Springs. Approximately half

of them house permanent residents. The area is subject to both person and lightning-caused fires. The pinyon/juniper vegetation fuel type occurs in this area.

The Jemez District of the Santa Fe National Forest provides initial attack in Sierra Los Pinos, Cochiti Mesa and the Jemez Corridor during wildland fire. Sierra Los Pinos supports its own volunteer fire department, while the Jemez Corridor relies on the Jemez Springs VFD. Cochiti Mesa is working with Sandoval County in an effort to develop an effective volunteer fire department program. None of these areas has a developed fire protection water system.

ASSESSMENT PROCESS

The community assessment occurred over a two day period, May 10-11, 2002. During that time, the assessment team studied the challenges posed by fuel types, housing sites and material, and other considerations that relate to mitigating against a large-scale wildfire event. The purpose of the assessment was to identify common strengths enjoyed by residents of the Eastern Greater Jemez WUI Corridor as well as look for conditions that could and/or should be modified to increase the area's level of wildfire readiness. The assessment team visited several residences within the Corridor to conduct on-site investigations and studied the area for an overall sense of implementable solutions.

he assessment team was accompanied by Phil Neff of the Jemez District of the Santa Fe National Forest and Karen Lightfoot and Nancy Neskauskas with the Bernalillo District of the State of New Mexico Energy, Minerals & Natural Resources Department. The team considered the entire Corridor as one community, separating its findings by location as appropriate.

A public meeting was held the evening of May 10 during which Jack Cohen of the USDA-Forest Service Fire Sciences Laboratory delivered a two-hour presentation on the topic of wildland/urban interface fire mitigation. Approximately 150 residents attended.

IMPORTANT CONSIDERATIONS

The Firewise Communities/USA program seeks to create a sustainable balance that will allow communities to live safely while maintaining environmental harmony in a WUI setting. Homeowners already balance their decisions about fire protection measures against their desire for certain flammable components on their properties. It is important for them to understand the implications of the choices they are making. These choices directly relate to the ignitability of their home ignition zones, and thus their homes, during a wildfire.

The Eastern Greater Jemez WUI Corridor faces several major wildfire challenges. The assessment team isolated the following for community consideration:

- volatile fuel types, including mixed conifer (often spruce and fir) and pinyon-juniper
- substantial volumes of low ground fuel
- one way in and out in many areas

Thinning of the high-fuel areas is recommended to improve both forest health and ecological sustainability. The reduction of the volume of vegetation will have two benefits. No only will it mitigate the fire hazard, it can be accomplished in a way that will reflect an interest in maintaining a healthy ecosystem during times of extended drought.

Even with home ignition zones potentially providing fire protection, a wildfire in the Corridor will create a significant volume of firebrands, and may look something like a blizzard. To lower the ignition potential of the homes in the Corridor, residents should inspect their roofs and the ground immediately adjacent to their homes for fine fuels, and remove them regularly. Fine fuels include leaves and needles, grasses and other

dry vegetation. Man-made items should also be removed from the immediate vicinity of the houses in the Corridor.

Sandoval County is responsible for maintaining wildfire evacuation plans as they are created. None currently exists for Cochiti Mesa or the Jemez Corridor. Because of the fact that only one road accesses a number of the communities within the Corridor, a situation could arise in which the exit from one is blocked. It would be advisable for residents to identify safe zones in the event they are needed for shelter.

OBSERVATIONS AND RECOMMENDATIONS

1. Many stands of trees need thinning within the Corridor. This includes mixed conifer stands of spruce and fir as well as pinyon-juniper. These stands are mature and the wildfire cycle would indicate that they are ready to burn. The assessment team saw no alternative to conducting a major pruning project in order to avoid a fire.

Spruce bud worm is beginning to invade Seven Springs. When thinning, select the diseased trees first. In Seven Springs, an opportunity exists for selecting for Ponderosa pine in the bottom area. During the thinning project, these trees should be chosen to survive as they burn less aggressively than others. In Seven Springs and La Cueva, aspen should be encouraged to grow, as clones were found in the mixed conifer areas.

On the Cochiti Mesa, the team observed substantial amounts of down and dead fuel. The potential is high for crown fire in this area, as a continuous crown is made with white fir and douglas fir, accompanied by the fuels on the ground.

The trees that are chosen to remain should be pruned up; dead branches and foliage should be removed and the ground directly beneath them should be cleared of needles and other tree litter. Within the Jemez Corridor, the pinyon-juniper canopy must be thinned to reduce the vegetation's density. In so doing, a wildfire will have difficulty crowning, or remaining in the tops of trees, so the homes will have an opportunity to survive.

2. Residents should start the thinning process within their home ignition zones. Dead vegetative material and heavy concentrations of live material should be cleared from at least ten feet around each house. Trees should be pruned sufficiently to prevent flames from burning up to the house from outside the zone.

The understory within the Corridor also needs thinning, and dead wood should be cleared from the area. Much down and dead timber was observed within mixed conifer stands in a number of areas.

3. Aspen and other deciduous trees survive well in several areas within the Corridor. These are excellent Firewise alternatives. Where aspen stands occur, select out for aspen only, as these trees are quite fire resistant. Planted around structures, deciduous trees are a better choice than conifers.

4. Homeowners should strive to maintain 30′ of clearance around their residences. The area five feet on all sides of the structure should be fire free. That means that it should be free of anything that is flammable.

5. The homes that have shake/shingle roofs within the Corridor will very likely not survive a wildfire. Flammable roofs should be replaced with non-flammable alternatives.

6. Little things are important. Any items adjacent to a house are considered "attached" to the house by a fire. This includes wood decks, fences and walkways. Metal flashing can be inserted between the house and its "attachment". It will stop the progress of a fire.

7. Pine needles should be cleared from the roof, the gutters, and around the base of the house.

SUCCESSFUL FIREWISE MODIFICATIONS IN THE CORRIDOR

When adequately prepared, a house can withstand a wildfire without the intervention of the fire service. Further, a house and its surrounding community can be both Firewise and compatible with the area's ecosystem. The Firewise Communities/USA program is being designed to enable communities to achieve a high level of protection against WUI fire loss even as a sustainable ecosystem balance is maintained.

A homeowner must focus attention on the home ignition zone, and eliminate the fire's potential relationship with the house. This can be accomplished by disconnecting the house from high and/or low-intensity fire that could occur around it.

Citizen interest is the critical first step in facilitating a safer wildfire environment. Within the Corridor, Seven Springs, La Cueva, Thompson Ridge Estates, Sierra Los Pinos and Cochiti Mesa all have active homeowners associations that are working to address the wildfire protection issue. Although Jemez Corridor does not have a formal homeowners group, residents are integrated and organized with evacuation notifications through a developed phone tree system. They have also met and discussed potential fire threats and possible solutions.

There is more than one way to do apply Firewise principles. The following photographs were taken within the Jemez Springs Corridor and are examples of good Firewise practices.

The three examples above exhibit the use of Firewise materials and a fire-free zone adjacent to a house.

The vegetation next to to this house has been thinned and pruned, reducing the potential fuel load in the home ignition zone.

This homeowner has used rock to create a fire-free zone around the base of the house.

The windows in this house have been provided with shutters for further protection should a wildfire threaten.

The aspen surrounding this home provide an excellent Firewise landscaping alternative.

NEXT STEPS

After reviewing the contents of this assessment and its recommendations, the members of the Eastern Greater Jemez Wildland/Urban Interface Corridor Firewise Committee should determine whether or not it wishes to continue with the Firewise Communities/USA pilot project. The Firewise Communities/USA representative will contact Phil Neff of the Santa Fe National Forest and/or Karen Lightfoot of the State of New Mexico Energy, Minerals & Natural Resources Department to learn of the Committee's decision.

If the site assessment and recommendations are accepted and the project continues, an Eastern Greater Jemez WUI Corridor citizens' committee should create agreed-upon, area-specific solutions to the Firewise recommendations. A Firewise Communities/USA representative will visit the Corridor during July or August for the purpose of monitoring program progress. The Corridor's plan should be completed by September 16, 2002. Following its submittal to local state or federal officials or Firewise Communities/USA, the committee will meet with Firewise representatives to discuss next steps and to critique the process.

Should the Corridor seek to achieve national Firewise Communities/USA status and recognition, it will integrate the following standards into its plan:

- Sponsor a local Firewise task force, committee, commission or department which maintains the Firewise Community program and status.

- Enlist a wildland/urban interface specialist to complete an assessment and create a plan from which it identifies agreed-upon, achievable local solutions.

- Invest a minimum of $2.00 annually per capita in its Firewise Communities/USA program. (Work done by municipal employees or volunteers using municipal or other equipment can be included, as can state/federal grants dedicated to that purpose.)

- Observe a Firewise Communities/USA Day each spring that is dedicated to a local Firewise project.

- Submit an annual report to Firewise Communities/USA. This report documents continuing participation in the program and progress made.