Overview
Red River is a small mountain town located in northern New Mexico with 484 permanent residents. Five subdivisions, with over 500 houses, reside just outside the town's jurisdiction. Most of these properties are used from June to August each year. At the height of summer the local population can increase to near 10,000. According to the 2000 census, the median home value is $160,300 with 58% of the homes occupied seasonally. The median household income is $31,337.

Red River is situated in a narrow, steep and heavily wooded canyon bordering the Carson National Forest on all sides. The town sits at 8,750 feet in elevation and extremely dense forests of mixed conifer and spruce fir place the town and nearby subdivisions at great risk of catastrophic wildfire. The surrounding forest attracts a large number of outdoor enthusiasts who hike, camp and recreate year round. The high recreational use of the forest increases the chance of a human ignited fire. A further concern is the prevailing wind from the southeast, which makes Red River especially vulnerable to a wildfire from this direction. This small community is also challenged with educating a large population of absentee homeowners about the extreme wildfire threat.

Addressing the wildfire threat
The 1996 Hondo fire prompted the evacuation of Red River for three days and motivated the town into action. The Red River Urban Interface Group (RRUIG) formed in 1996, and created a partnership between federal, state and local fire agencies to address the wildfire risk facing Red River. The group prioritized areas requiring fuels reduction treatments and developed a Strategic Plan to achieve established objectives. The Strategic Plan sets out goals in four areas; 1) develop better wildfire suppression capabilities, 2) address the fuel hazards themselves, 3) educate the public not only about the risk but how they could contribute in addressing the risk, and 4) consider building code opportunities. The RRUIG's primary goal is to protect the community first by creating a buffer around the community that will not sustain a crown fire.

National Fire Plan (NFP) Community Assistance Programs
In New Mexico, NFP Community Assistance Programs incentivize communities to address their wildfire threat through five grant programs; 1) 20 Communities Cost-Share Program, supports thinning on private land, 2) Economic Action Programs, develops economic opportunities related to traditionally underutilized wood products 3) Volunteer/Rural Fire Assistance, improves firefighting capabilities of rural fire departments 4) Four Corners Sustainable Forest Partnerships, promotes community development through forest restoration and 5) Collaborative Forest Restoration Program, supports projects to restore forests on public lands.

Red River aggressively seeks monies through the NFP Community Assistance Programs. Red River received $298,400 in grants during 2001 and in 2002 received $289,000.

Unique issues for mixed conifer and spruce fir forests
Historically, mixed conifer and spruce fir was the wettest fuel type and produced few large fire events. In the 1990s, weather patterns in New Mexico began to change and produced drought conditions. As a result, catastrophic wildfire became more common in this fuel type. Mixed

conifer has a low canopy base height which means canopies are closer to the ground. A high wind is not required to initiate torching or to cause a continuous ground fire.

These new weather patterns created a need to thin mixed conifer and spruce fir fuel types for the first time. Finding the best prescription has been an experimental process. Mixed conifer and spruce fir stands tend to become interdependent on each other in terms of resistance to wind. The shallow roots of spruce make it easy for the tree to blow over. Winds in the area are commonly 35 - 40 mph. Stands cannot be significantly opened up without making them susceptible to wind throw.

Mixed conifer is Mexican spotted owl (MSO) habitat. Several recent court rulings directly impact MSO habitat and may significantly increase the amount of land designated as MSO critical habitat. For communities located in mixed conifer forests these rulings could raise new issues and prolong the planning and implementation of wildland urban interface (WUI) projects.

WGA Goal - Improve Fire Prevention and Suppression
Actions to meet goal
- Improve firefighting capability/readiness to protect communities and the environment

- Reduce incidence of injury to life and property resulting from catastrophic wildland fire

- Expand outreach and education to homeowners

- Develop a consistent preparedness model among partners

Around 1989 or 1990 the Red River Fire Department realized structure fire was not the town's real threat; it was wildland fire. They started crosstraining their firefighters in 1994 with 131-190, Basic Wildland training. Today, a vast majority of the volunteers are wildland trained and red carded.

The Red River Fire Department is predominately a volunteer organization. Three paid staff and about 36 volunteers respond to fire and Emergency Medical Service (EMS) calls for this town of 484 residents. The town hires two 2-man crews from mid May to mid September when calls increase significantly.

Education efforts
On May 6, 1996 the Hondo fire ignited southwest of Red River. The fire burned though the community of Lama, up to the town of Questa and within five miles of Red River. The town was evacuated for three days. The Hondo fire burned 8,000 acres and destroyed 34 structures. After the Hondo fire, Red River began educating the community on the wildfire threat. One of the biggest challenges is the high number of seasonal residents who show up in June and fade in numbers after Labor Day. Many vacationers are from less wooded environs and Red River's wooded character is highly appealing. Unfortunately, this also creates a culture that can be resistant to thinning and cutting trees. The initial education effort started in 1996 though public

meetings held three or four times a year, targeting the months when the greatest numbers of homeowners were available to attend.

Red River tried a different education strategy in 1998. The town sent out two mailings that targeted seasonal homeowners. The goals of the mailings were to create an awareness of the wildfire risks and offer access to resources designed to reduce those risks. However, the town considered the mailings a disappointment. They sent out about 1000 letters in each mailing and only 2 or 3 people responded to the resources offered. Surprisingly, the town found the event that sparked the most interest was the onset of actual thinning projects. After the thinning on the first properties was completed the Fire Department received hundreds of phone calls from people inquiring about the projects. It gave the town an opportunity to explain the program one-on-one to a large group of people they might not have had the opportunity to reach.

Red River's education efforts also included a one-day FIREWISE program in combination with the local community of Angel Fire in May 2002.

Emergency notification
The telephone zone concept is used to notify area residents of an emergency. The town clerk maintains a list of names and numbers for people who volunteer as zone leaders. All zone leaders are called with emergency information, who in turn passes the information on to the people assigned in their zone. If the town clerk is unable to reach a zone leader, then he or she calls the people within that zone. As an extra precaution, volunteer firemen visit each subdivision and knock on doors to ensure all people receive the evacuation or emergency notification.

The Taos zone
The Red River Fire Department operates within the Taos Zone District for coordination. All agencies with land management responsibilities in the Taos Zone coordinate fire suppression actions, including training and daily operations of the Zone Coordination Center. When a wildfire is called in, the closest available fire resource responds. In most cases the Red River Fire Department will respond to a wildfire on Forest Service land in the vicinity of the town. Red River will size up the fire including whose land is burning, whose land is threatened, the anticipated resources needed and then coordinate through the Taos Zone Coordination Center located in Taos, NM. The Taos Zone stretches across northern New Mexico.

Red River's strategic plan
Ron Burnham has been the Red River Fire Chief since 1984. After the 1991 Oakland Hills Fire in California, he became concerned about community vulnerability if resources are not in place to deal with catastrophic fire events. In 1996, Burnham enlisted the help of the US Forest Service (USFS) and NM State Forestry (NMSF). They began by examining the topology and vegetation in the community to understand where the wildfire threat was greatest and what impact a fire would have. Shortly after, the Hondo fire burned within five miles of Red River. Suddenly the whole community realized the potential for wildfire. Ron Thibedeau, Questa District Ranger (USFS), George Devise, Carson National Forest Assistant Fire Management Officer (USFS) and Ernie Lopez, Cimerron District Forester (NMSF) worked with Red River and developed a strategic plan. The USFS brought in two fuels technicians and pulled together all the historical data relative to wildfires, ran some modeling charts, took all the fire history since 1977 and

produced a planning document called "Why Here? Why Now?". The document outlines a monitoring plan, a public participation plan and proposed practices for implementation over the next five to ten years. But few funds were available at that time and the plan's implementation progress was slow. In 2000 when National Fire Plan Community Assistance grants became available, Red River was ready with prioritized projects. The town was awarded grants through the 20 Communities Cost-share Program, Four Corners and USFS Economic Action Program.

WGA Goal - Reduce Hazardous Fuels
Actions to meet goal Reduce acres at risk

- Ensure communities most at risk receive priority
- Expand and improve integration of hazardous fuels management program
- Incorporate public health and environmental quality considerations in fire management activities
- Develop smoke management plans in conjunction with prescribed fire planning
- Address fire-prone ecosystem problems
- Maintain areas improved by fuels treatment
- Conduct and utilize research to support the reduction of hazardous fuels in WUI communities
- Factor in local environmental conditions during fuels treatment planning

20 Communities Cost-share Program
In 2001, the 20 Communities Cost-share Program provided Red River $246,400 to address the wildfire threat. The town targeted a group of five subdivisions located in the Upper Red River Valley (URRV) as the project area for the grant monies. The URRV sits outside of the jurisdictional lines of Red River but is considered part of the community. Although the jurisdiction belongs to Taos County, these subdivisions are included in the Red River Strategic Plan. Over 500 homes are situated on a strip of private land in a canyon bottom surrounded by Carson National Forest. There are 300 acres of forested private land in the project area. Access into and out of the URRV is one way. There are four main objectives for the project, 1) to reduce the fuel load to keep ignitions out of the crown and drop crown fires on the ground, 2) perpetuate existing aspen stands to provide a natural fuel break, 3) promote escape routes and buffer zones and 4) develop "showcase homes" to promote public commitment to defensible space. The goal is to treat two thirds of the forested aces or 200 acres in the URRV. As of January 2003, 98% of the 2001 grants were completed on 132 properties with 137 acres treated or 69% of the 200-acre goal. The town has accepted 100% of homeowners applying for the grant. The 2002 round of grants provide an additional $40,000 for continuing fuels reduction treatments in the URRV.

Another section of land included in the 2001 grants is the West Fork, a 60-acre parcel with one owner. About 44 acres were identified as treatable and thinning began. Problems developed

when the landowner decided the look of the thinned property was not what she envisioned and withdrew from the program. In the end only 18 acres were treated.

In 2002, Red River received $244,000 from the 20 Communities Cost-share Program. The main target area for these monies is Red River Pass, which sits on a ridge in the eastern section of URRV. The 2002 project area is about 200 acres with a goal to treat 150 acres. There are about 80 homes in the Red River Pass and the property is being rapidly developed. A subdivision called Mountain Shadows is the priority target area. The town will pay the 30% match for the 2002 grants.

Red River did not apply for the 2003 20 Communities Cost-share Program. The expense of paying the 30% cost-share in URRV and the slow reimbursement processes for the grant program has been a drain on the town budget. The town decided to stop and assess current projects. In 2004, the town plans to target Bitter Creek as their 20 Communities project area.

Red River Urban Interface Group (RRUIG)
RRUIG is a joint effort to deal with the wildfire threat in Red River. Ron Burnham, the Red River Fire Chief, is the driving force behind the group. The members include the Questa District Ranger (USFS), Assistant Fire Management Officer for Carson National Forest (USFS), Cimarron District Forester (NM State Forestry), Red River Fire Chief, Red River Town Administrator, and Red River Mayor. The group does not meet on a regular schedule but rather on an as needed basis. After they developed the strategic plan in 1998, the interaction between members was more through conference calls, e-mails and occasional meetings. Burnham feels they know the next steps to reduce the wildfire risk, "Getting together frequently to acknowledge the next step is not really productive". The group has been busy in 2003. RRUIG has made progress on the Strategic Plan since 1998 and the group is working to update goals and identify new priorities.

The thinning process
The initial basal area for the mixed conifer/spruce fir forests is on average 140-200 square feet per acre in Red River. The typical prescription reduces the basal area to 80-100 square feet per acre coupled with limbing to eliminate ladder fuels. Other standard prescriptions used in the project area perpetuates aspen stands because they are a natural fuel break, and promotes a clumpiness pattern to allow the homeowner a screen between the road and their neighbor.

After the property is treated, small debris is piled and burned from thinning projects. Larger timber is cut into manageable firewood size logs and stacked on the property. The property owner is responsible for using or removing these logs. The debris from defensible space projects is chipped and hauled from the property using a leased chipper. The town was awarded a 2002 Rural Development grant of $20,000 for a chipper but has not received the funds. USFS placed a hold on 2002 Rural Development grants to pay unexpected wildfire suppression costs from 2002.

How long to finish the buffer on private land?
There are no firm statistics on the progress or estimated completion of the buffer on private land. An estimate by Ron Burnham, is about 20% complete with a ten year time period to finish the buffer. Red River recently purchased GIS software and equipment using a USFS Community

Planning grant. This tool will provide the town with the means to accurately monitor progress of their future projects.

USFS Projects

The U.S. Forest Service plays a pivotal role in all areas prioritized by the Red River Urban Interface Group. The first priority is Pioneer Canyon which borders the town and is located in Carson National Forest. Pioneer Canyon provides critical infrastructure to Red River in two ways. First, since the town's one water tank and a majority of the town's well water are situated in the canyon, a fire incident could significantly affect the town's water supply. Second, a fire in Pioneer Canyon could destroy the Red River Ski Area, the winter economic base for the town.

The USFS and Red River plan to thin this steep and densely wooded canyon. In 2002 the USFS began the archeological survey (AS) and biological evaluation and assessment (BE&A) in Pioneer Canyon. No Mexican spotted owl (MSO) surveys were planned. Previously in 1997, USFS District 3 and the US Fish and Wildlife Service (USFWS) agreed that if the USFS maintained a minimum basal area appropriate for suitable MSO habitat and the thinning supported a wildland urban interface project within a half-mile of private land, then MSO surveys would not be required. However, in 2002 the Regional Office reviewed the agreement and decided the programmatic agreement did not conform to the Forest Plan. So, the planning process for the Pioneer Canyon project required an extra two years to complete MSO surveys. The AS and BE&A continue to move ahead and should be completed in the summer of 2003. The planned NEPA process is an Environmental Assessment and will begin as soon as the surveys are completed. Pioneer Canyon is about 4000 acres. Due to topography and the lack of roads, the Forest Service estimates only 125 acres, or 3% of Pioneer Canyon, will be treated. One plan is for Red River to use grant money to improve water crossings and pullouts on the road to facilitate thinning. Currently, the Forest Service closes Pioneer Canyon to motorized access when the fire danger is high.

The Red River water treatment plant is the second priority designated by the Red River Urban Interface Group. The eight-mile stretch of Highway 38, west of Red River, is lined with six National Forest campgrounds that attract campers throughout the year. The potential of a camper ignited wildfire is increased due to the prevailing southwest winds, which could push a wildfire up the small canyon road and directly toward Red River. The USFS Questa District received $60,000 to thin the ponderosa pine forests along Highway 38 and the land surrounding the Red River water treatment plant. The thinning project started five miles west of Red River and followed the road up to the town boundary. About 300 acres of actual thinning were completed at a cost of $200-$300 an acre. The contract was let to a company in Arizona. There were no bidders from the local area even though the information was advertised. The goal of USFS Questa District is to better educate local businesses so they can take advantage of future projects.

The third priority designated for Red River is the Upper Red River Valley. The Forest Service began planning a project in 1996-97 to compliment the town's efforts on private property by creating a buffer on the public land bordering the subdivisions. This project involves 125 acres and thinning will begin in mid 2003. The project area is currently marked and open for firewood gathering. However, there is no public access to the marked trees. Since Red River is already saturated with firewood from ongoing thinning projects on private land, little wood is being

taken from the project area. During the next Environmental Assessment the Forest Service plans to create a broader belt around the URRV. The broader belt phase will likely begin in 2004 or 2005.

WGA Goal - Restore Fire Adapted Ecosystems
Actions to meet goal
- Perform burned area stabilization and rehabilitation work in emergency areas
- Restore burned areas and repair and improve lands unlikely to recover
- Place priority on at risk watersheds that have been damaged by wildland fire
- Establish native seeds and other plant material
- Publicize and train in the use of minimum impact suppression activities
- Promote research of effective restoration practices
- Research interactions between fire, land management and other disturbances

In addition to completing the buffer, the town wants to maintain the surrounding forests health. Red River is trying to get a sense of how best to maintain the forest once all the thinning is completed.

WGA Goal - Promote Community Assistance
Actions to meet goal
- Reduce losses to communities from wildland fire
- Promote markets for traditionally underutilized wood
- Promote opportunities to continue and enhance sustainable livestock grazing as part of restoration strategies
- Increase incentives for private landowners to address defensible space and fuels management needs on private property
- Promote local government incentives through fire-sensitive land use planning

20 Communities Cost-share Program
The 20 Communities Cost-share Program is funded with National Fire Plan monies that are passed through the state to communities throughout New Mexico. Red River received $480,400 from the 2001 and 2002 round of grants. The fiscal administrator for the grant program is the town of Red River who pays the initial cost for thinning then bills the state.

Red River pays the 30% cost-share

Through this program homeowners can be reimbursed for up to 70% of the cost to reduce hazardous fuels on their property. Normally, the property owner is responsible for the remaining 30% in cash or in-kind payment. However, the Red River approach is to have the town pay the 30% cost-share portion. In-kind combinations from the town in the form of labor and salary are used for the match. Since Red River pays the match, the program is essentially free and opens the door for the town to make continuing progress in addressing the wildfire risk.

The residents of Red River support this expense because they realize a fire anywhere in the area can have a devastating effect on the community. After the Hondo fire the impact on Red River was long lasting. Many people who regularly vacationed in Red River saw the Hondo fire on national news and thought the town had burned. The community felt a significant economic impact for a year after the fire. The impact slowly declined over a two year period once people learned Red River was unaffected by the Hondo fire.

The 20 Communities Cost-share Program is advertised at public meetings and the local newspaper, but is most successfully promoted by word of mouth. If a property owner wishes to participate in the grant program they begin by signing up at the Red River Town Hall. Deke Willis is the Red River Assistant Fire Chief and he generates the documentation to begin the process. A contractor, Southwestern Environmental Consultants (SEV), develops a management plan and does the original assessment of the property. SEV is located in Arizona but has an office and one employee in Taos. SEV is paid $205 an acre to develop a management plan, mark it on the ground and be available to explain the details to the property owner. The management plan also documents the property owners' desires and needs. The town will either hire a contractor or complete the work themselves through Fire Department employees. The homeowner has the option to complete the work themself at a reimbursement rate of $15.39 per hour. When the thinning is completed on a property the work is inspected by Willis using the management plan. After the initial inspection, New Mexico State Forestry (NMSF) Cimarron District conducts the final inspection. They review the work against the management plan and the guidelines of the grant and approve or disapprove payment. Red River pays the contractor or homeowner who completes the work, and is then reimbursed by NMSF.

The maximum reimbursement for thinning in the Red River project area is $600 for "light" work, to $1,700 for "heavy" work. Defensible space is another rate. The maximum reimbursement is $2,050 for "heavy" and $650 for "light" work. Defensible space creates a zone that is heavily thinned adjacent to the home. It involves a total clean up, which means all the slash is physically picked up, piled, burned, chipped or removed. Thinning has a lesser impact and balances more with the surrounding forest. The goal is to reduce the ability of the forest to sustain a crownfire. A majority of work in the Red River project area is considered heavy.

Not everyone wants to participate in the 20 Communities Cost-share Program, even when the cost is minimal. The Red River Fire Department accommodates these people in any way possible. One program is to offer a homeowner one-on-one assistance to determine their fire risk. The fire department relies on FIREWISE literature and a guide distributed by NMSF entitled "Living With Fire". Although the one-on-one help is not requested often, there have been good results from the homeowners who have taken this option. In about twelve cases homeowners wanted to do the work themselves. They didn't want anyone to tell them how to thin or do the

thinning for them. The homeowners asked the town to remove the resulting debris and Red River gladly accommodated those requests.

Workforce issues
The first year of the 20 Communities Cost-share Program revealed an unexpected problem, the expense of debris removal. The first round of bids in 2001 had three bidders; all substantially higher than the recoverable maximum dollar amount set by NMSF. No one was awarded the contract. On the second round of bids slash management was removed or significantly reduced and there were two bids out of five within the maximum amount. The town hired both contractors, Canon Forestry and Randy Wilkinson. Wilkinson won a contact for $800 an acre for thinning only. A second contract was let for $1,200 an acre to Canon Forestry with limited slash management. In less than a week both contractors told the town they could not work for the agreed amount because they were losing money. Canon Forestry eventually withdrew. Wilkinson's rate was adjusted to $950 an acre with no slash management. The town now hires Fire Department employees/volunteers to fill in when there are no contractors to do the work.

Utilization and residue disposal
Many feel biomass management is the greatest challenge for Red River. There are limited options to utilize the timber from thinning projects. Since fuels reduction projects are likely to continue for the next several years, utilization is a critical piece of the process. Firewood appears to be the primary utilization. When the area around the water treatment plant was thinned, people from Questa and other neighboring communities collected the wood as soon as it was cut. Timing and easy access provided the opportunity for people to gather and use the wood.

Firewood collection - Questa District has a demand for firewood and personal use timber. Many surrounding communities depend on the forest for their livelihood. Firewood is needed for cooking and heating homes. Personal use timber is used for wood products such as latillas (wood poles) and vigas (wood beams). The problem is the district has a minimum number of roads and three wilderness areas, which limit access to forested public lands.

Ron Thibedeau has been Questa District Ranger for fifteen years. He considers the ability to provide wood to the public a critical responsibility for his district. Thibedeau intends to schedule wildland urban interface (WUI) thinning projects to accommodate the public's need by opening an area to firewood and personal use collection prior to actual thinning. The Forest Service will mark trees and then allow people to collect firewood for a year or two. In the second or third year a contractor will thin at a lesser rate because many of the trees were taken out. A year later the piles will be burned. This process serves three purposes. First, the product reaches the people who need it. Second, the Forest Service saves money because the contractor thins fewer trees. Third, there are fewer debris piles to burn, which reduces the amount of smoke.

Woodchips from fire mitigation projects - Currently, all wood chips produced from thinning in the Upper Red River Valley are stored at the water treatment plant. The town is waiting to transport the chips to a new biomass fueled facility, Eastside Energy Corporation (EEC), out of Alamosa, Colorado. A 2002 Four Corners grant of $25,000 allowed Red River to purchase two storage containers for transporting woodchips to the EEC facility. EEC will pay $28 a green ton for wood chips. When the wood chips are transported to Colorado, the facility will take a sample

of the woodchips, determine how much energy the chips can produce and calculate how many British thermal units (Btu) are in the load. The company was on hold from starting in operations in January 2003 because of an injunction initiated by neighboring property owners. The town is counting on the money from EEC to help offset the cost of the slash management.

Summary

Red River is a small community taking big actions to respond to the wildfire threat. The one response that stands out is the town's willingness to absorb the 30% cost-share of the 20 Communities Cost-share Program. This strategy provides a large number of private property owners with the means to create a fire safe area around their homes and allows the town to make continuing progress in their wildfire mitigation plan. Additionally, Red River designed landowner participation into the 20 Communities Cost-share Program. The Red River program allows homeowners to participate in developing the management plan to thin their property. Allowing homeowner involvement gives them ownership in the project.

The primary strengths of Red River's wildfire response plan are linked to their efforts to reduce hazardous fuels and suppression/prevention. Red River takes full advantage of National Fire Plan Community Assistance monies available to assist communities in reducing the wildfire threat. Backed by these grants, the town, with the help of USFS and NMSF, has made enough progress in their Strategic Plan to warrant a review and update.

The biggest challenge for Red River is utilization of debris and workforce issues. No one can dispute that Red River will have on-going fuels reduction projects for years to come. Right now there are more acres to thin than contractors to do the work. Demand for contractors may come around as the market adjusts. However, Red River's inability to find affordable contractors places a heavy burden on town resources. Developing a reliable and competitive workforce would take some of the pressure off the town and allow resources to be used elsewhere.

Finding a viable market for debris taken from project areas is another challenge. If the agreement with Eastside Energy works out, the town can recover some the funds spent on slash removal. However, that arrangement has yet to go forward.