

## **Overview**

Located in southeastern New Mexico, the village of Ruidoso is a picturesque mountain community surrounded by Lincoln National Forest. The area has a permanent population of about 9,500 which increases to three times that amount during the summer months. Texas provides the main influx of people who travel to the cool forested mountains of Ruidoso each summer. Small vacation cottages, rustic homes and grandiose starter castles pepper the steep, winding and heavily wooded canyons that place the community at risk of wildfire. According to the 2000 census, over 43% of the homes in Ruidoso are seasonally occupied. The average household income is \$35,626 and the average home value is \$106,544. At an elevation of 6,900 feet Ruidoso is located in ponderosa pine forests with an understory of pinon-juniper, gambel and shrub oak.

## **Wildland urban interface fires**

Since 2000 Ruidoso has experienced a variety of interface fires. In March 2002, the Kokopelli fire burned almost 1000 acres and overran a subdivision destroying 29 structures. During June 2001, the Trap and Skeet fire burned 463 acres on Ruidoso's west side and in May 2000 the Cree fire burned 6,500 acres, destroyed 3 homes and forced hundreds of residents on Ruidoso's east side to evacuate their homes. In 2001, Ruidoso was ranked the second most vulnerable community at risk for wildfire in the nation by the U.S. Forest Service (USFS). New Mexico State Forestry (NMSF) named Ruidoso as number one on the state's list of communities most at risk of catastrophic wildfire. According to the USFS, the village will always be at risk because of the density of the forest and the inter-mixed nature of the community.

## **Addressing the threat**

In 1999 New Mexico State Forestry's Twenty Communities Strategy called for stakeholders in each community to come together to address the wildfire threat. In 2000 the Capitan District Forester, Barbara Luna, brought local agencies together and stressed the need for a collaborative effort in Ruidoso. As a result the Ruidoso Wildland Urban Interface Group (RWUIG) was formed. RWUIG is the main coordinating entity to address the wildfire threat facing Ruidoso. Composed of members from federal, state and local agencies from the public and private sectors, RWUIG prioritizes areas for treatment and coordinates the efforts of various organizations to achieve these prioritized objectives. RWUIG also serves as a forum to share perspectives and provides a regular point of contact among diverse members who otherwise might interact only on an ad hoc or one-on-one basis. The group is coordinated by Ruidoso's Urban Forester, Rick DeIaco.

## **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.

Ruidoso aggressively seeks monies under these programs. In 2001, Ruidoso was funded for \$1,331,975 through NFP Community Assistance Programs. In 2002, Ruidoso was allocated \$942,699 in these grants.

### **Why does Ruidoso have such a high wildfire risk?**

"Ruidoso will always be at risk (of wildfire) because of the density of the forest and the intermixed nature of the community." Jerry Hawkes, USFS, Smokey Bear District Ranger

Living in southeastern New Mexico's ponderosa pine forests means living with the threat of catastrophic wildfire. Historically, the ponderosa pine forest burned every three to seven years with a low intensity fire that cleared the forest floor of small trees and shrubs. Fuels were reduced which kept the risk low for catastrophic wildfire. Decades of aggressive fire fighting policies reduced or prevented these low intensity fires and the overcrowded forests of today are the result. Heavily wooded forests coupled with a decade of drier weather patterns have left the ponderosa pine stressed and vulnerable to disease and insects. Infestations of pine beetles and dwarf mistletoe contribute further to the declining forest health. As the forest health has worsened, the threat of catastrophic wildfire has increased.

### **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

### **Ruidoso's Fire Department**

The Ruidoso Fire Department has 25 full-time and 3 volunteer firefighters to support a population of over 9,000 people. All firefighters are crosstrained in both structure and wildland fire techniques and have completed 130-190, Basic Wildland Training. This requirement began in the late 1980's. About 50% of Ruidoso's firefighting force has completed Advanced Wildland Training.

### **Education efforts**

With 43% of Ruidoso's homes seasonally occupied, a major challenge is how to increase public awareness of part-time residents or vacationers about the wildfire risk. In 1999, Ruidoso received a Project Impact Federal Emergency Management Agency (FEMA) grant of \$300,000 for wildfire education and emergency management. The grant has been used to pay for a variety of traditional and nontraditional outreach activities that focus on emergency evacuation and education. All the education and outreach efforts are linked to the Village Emergency Management.

To facilitate alert/warning notifications, Ruidoso purchased "The Communicator", which is a reverse 911 dialing computer system designed to notify residents about an impending emergency. The operator can identify a geographic area and the system will call up to 500 residences in that vicinity within 10 minutes. Emergency Management used the system for the first time during the Kokopelli Fire, along with local radio stations, to alert the community of the evacuation. According to Emergency Management, "The Communicator" worked well, but one property owner living near the Kokopelli fire said neither he nor his neighbors received an evacuation call.

Ruidoso's nontraditional activities include working at a grassroots level to reach nonresident homeowners. For Instance, the Public Information Officer has created an event driven strategy to reach people outside their homes. A Department of Interior grant for \$14,000 will fund the creation of a program that is mobile and easily moved to various events, such as the race track, museums and cook offs. Further, Ruidoso started a Neighborhood Fire Smart program in January 2003 which is modeled after the national Neighborhood Watch crime prevention program. Neighborhood Fire Smart identifies block captains and other interested parties to coordinate with neighbors and is designed as a one-on-one outreach intervention at the grassroots level. The program builds capacity for an entire neighborhood to work on wildfire responses.

In the Kokopelli Fire, of the 28 houses burned, only 7 were owned by full time residents. The challenge for Ruidoso officials is how to notify part-time residents about evacuation routes, especially in hard to reach neighborhoods. Ruidoso used several approaches to deal with the challenge. All routes out of canyon neighborhoods were identified by evacuation signs located at key intersections and roads. A tri-fold brochure that contained evacuation procedures was designed and sent to every resident through their electric bill in 2002. Ruidoso will repeat this exercise in 2003. Also, Village Emergency Management made a video of public service announcements about evacuation and fire awareness. The video ran on local television stations during the summer of 2002. Other efforts include FIREWISE workshops held in March 2001, April 2001, and April 2002.

### **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

### **Municipal Homeowner Assessments**

There are two initiatives geared to help private landowners thin or create defensible space on their property. The first is a municipal program that allows the Urban Forester, Rick DeIaco, to meet with residents, assess the property and recommend how to make the property more fire safe. On average about 30 assessments are completed a month with a higher number from April through September due to an increased presence of vacationing homeowners.

The municipal homeowner assessments emphasize three different elements, 1) fire protection/hazard reduction; 2) landscape opportunities, and 3) forest health depending on the preference of the homeowner. If a property owner wants to maximize their fire protection, DeIaco makes recommendations that emphasize that preference. If a homeowner is interested in preserving their landscape, DeIaco helps reduce the fire risk with those preferences in mind.

### **Ruidoso's wildfire ordinances**

In June 2002, the Village Council passed a mandatory fuels management ordinance to facilitate the creation of defensible space around homes. 13,000 acres within Ruidoso will be treated to a ground fire standard, which is designed to keep a fire on the ground and reduce the risk of a wildfire spreading into the trees. To complete the entire 13,000 acres will take approximately 6-8 years. A total of four ordinances were passed and several years of work laid the ground work for the ordinances to pass. A community-led Forest Task Force devised the ordinances and worked with the Village Planning and Zoning Committees and the Village Council. Fortunately, the night the ordinances were brought before the Village Council for a vote, the smoke from the Rodeo-Chedeski Fire in Arizona blew through town. The smoke from the Arizona fire coupled with the recent and local Kokopelli fire resulted in support for the ordinances.

In total four ordinances were passed in June 2002. Ruidoso may be the first municipality in New Mexico to adopt codes such as these. The first ordinance outlines universal homeowner property treatment and new construction guidelines. The second ordinance is a wildland hazard overlay district. The third outlines the fire ordinance that consolidated and updated all the fire regulations. The fourth revamps the existing ordinance that now states a permit is needed for cutting trees over 16" in diameter.

Slash and debris removal has been an integral part to encourage residents to reduce hazardous fuels on their property. Village officials believe having a system in place for removal of yard debris is important if homeowners are expected to abide by the ordinance. To facilitate the removal of debris, Ruidoso purchased their first grappling truck in 1999. By 2002 Ruidoso owned three grappling trucks with two more on order. Once the disposal system is geared up (with the purchase of additional grappling trucks) to handle the larger amount of residue coming off homeowner property, Ruidoso will begin to enforce the ordinance. Officials do not want to be in a position where people are thinning their property with no way to dispose of the debris. The enforcement will start on the southwest side of town, the area prioritized for fuels treatment by Ruidoso Wildland Urban Interface Group. Ruidoso anticipates three type of people, 1) those who comply (no problem is anticipated with these folks); 2) those who can't thin because they

are physically or financially unable (a volunteer program exists through the schools and community service organizations that will help the people in this group); and 3) those who won't thin because of various issues; for these people the Village will, hire a contractor, thin the property forcibly, and bill the property owner or place a lien on the property.

### **Ruidoso's "tree ordinance"**

In the late 1980s, the Ruidoso Village Council passed an ordinance that required a permit and a \$5 fee to cut down a tree larger than 5 inches in diameter. The ordinance was in response to public outrage when a local businessman cut down three large ponderosa pines on his property. Many residents of Ruidoso felt the aesthetic value of trees was worth protecting and little challenge was made to the ordinance. In the 1990s the wildfire risk increased and residents wanted to make their property safer and thin trees but were stopped by the expense of the tree ordinance. In 1995 a group of citizens formed "The Forest Health Coalition" and this was the impetus for changing the original tree ordinance. In the spring of 1996 the Coalition was successful in changing the tree ordinance and homeowners began thinning the vegetation on their property.

### **Ruidoso hires an Urban Forester**

Ruidoso started experiencing interface fires in 2000 and losing houses. Old assumptions, such as paved roads would stop a fire, were proven wrong and the officials realized they needed to confront the wildfire threat. The Forest Health Coalition, a community-led group, had been pushing the Village Council to hire an Urban Forester since 1999. Rick DeIaco had been involved with the Forest Health Coalition and Ruidoso hired DeIaco as the first Urban Forester in November 2000. DeIaco felt Ruidoso needed a full time Urban Forester, "You need someone full time who can get things done-you need someone to coordinate". New Mexico State Forestry and DeIaco, along with other fire agencies started the RWUIG which replaced the recently disbanded Forest Health Coalition as the driving force to address the wildfire threat in Ruidoso.

### **20 Communities Cost-share Program**

New Mexico's 20 Communities Cost-share Program allows private landowners to thin on their property at a reduced cost. National Fire Plan monies support this program and are passed through the state to cities, towns or counties to help defray costs to create defensible space around homes, thin forested private property and promote overall forest health. Ruidoso was awarded over \$2,000,000 during the 2001 and 2002 round of grants. Through this program homeowners can be reimbursed up to 70% of the maximum reimbursement rate per acre set by NM State Forestry Division (NMSF). The standard for the State program is for crown fire protection and is more strict than Ruidoso's municipal program.

The 20 Communities Cost-share Program was administered by the South Central Mountain Resource Conservation and Development Council (RC&D) in 2001, but in 2002 administration was transferred to Lincoln County. NMSF wanted a full government entity to administer the grant and RC&D is a quasi-governmental agency. NMSF is unable to administer the program due to a state anti-donation clause that prohibits them from directly distributing money to private landowners.

The county is in the process of hiring a grant administrator whose duties will include enforcing the 20 Communities Cost-share Program. The county manager plans to vigorously enforce the program to ensure landowners are actually accomplishing what they have contracted to do and to ensure the monies committed actually get used.

2002 was the second season for the 20 Communities Cost-share Program for RWUIG. With these monies they have completed projects that abut USFS property within Ruidoso and lands that adjoin the Mescalero Reservation. They funded over 300 projects with the 2001 grant. For the 2002 round of grants, RWUIG decided to consolidate the efforts within the County (Alto, Ruidoso Downs and Ruidoso) in one large grant instead of competing against each other. Lincoln County received \$600,000 for 2002. RWUIG has prioritized areas for treatment in the southwest region of Lincoln County and are targeting the southwest side communities as the first line of defense.

### **Hazardous Fuels Reduction Projects**

#### *Municipal Projects*

Ruidoso created a management plan to thin forested areas on 638 acres of village property. The plan includes two project areas—Grindstone and Eagle Creek. The Grindstone project is 185 acres and surrounds Grindstone Lake, which is one of the main sources of water for Ruidoso. The municipal land abuts USFS land and the village has thinned to the same management prescription as the USFS to create a uniform fuels reduction around the lake. The 438 acre Eagle Creek project was funded in 2001 through a Collaborative Forest Restoration Program (CFRP) grant in the amount of \$335,852. The project combines hazardous fuels reduction with restoration work. Reyes Thinning has been awarded the contract and began work in October 2002. The prescription is to cut ponderosa pine up to 12 inches in diameter. The project incorporates school kids to help with planned monitoring work, in addition to other monitoring components. Slash and small diameter timber will be utilized where it is accessible. Contractors wishing to collect personal use timber or firewood will utilize wood greater than 5 inches in diameter. Slash material less than 5 inches in diameter will be transported to a compost facility.

#### *USFS Projects*

In 1995 USFS created a 13-mile fuel break around Ruidoso. So far, the USFS has treated 2,800 acres around Ruidoso. The current most vulnerable site is Eagle, which is 6,000 acres. Out of these 6,000 acres they will treat 2,600. The plan is to put out contracts for the project after October 1, 2002.

Update - As of April 2003, Ruidoso Wildland Urban Interface Group projects have created 6027 acres of buffer zone on public land and 805 acres of defensible space on private land.

### **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

Currently, there are no restoration efforts in Ruidoso.

### **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**

A property owner applies for the 20 Communities Cost-share Program through New Mexico State Forestry, Capitan District. Once accepted, the property owner is responsible for hiring a contractor and ensuring the work is completed. Barbara Luna, Capitan District Forester or Bill Duemling, Service Forester, conducts assessments (identifies trees for removal), compiles paperwork, conducts inspections and submits the paperwork to the county for repayment. The county then sends the bill to the Capitan District who creates and sends a purchase order to the Division of Energy, Minerals, and Natural Resources (EMNRD), the parent agency for NMSF. Once approved, EMNRD issues payment to the County.

The reimbursement rates for the 20 Communities Cost-share Program is dependent on whether the project type is for defensible space or thinning and if the property is categorized as light, medium or heavy. Square foot basal area per acre is used to determine the category of the property. Most properties in Ruidoso have been in the heavy category. Defensible space is for properties less than an acre in size with a house located on the site. Trees are thinned to a specified basal area, all forest litter is removed and remaining trees are pruned to 5 feet above the ground. The defensible space reimbursement rate is 70% of \$600/acre for light, \$1150/acre for medium and \$1700/acre for heavy thinning. The reimbursement rate for thinning is \$550/acre for light, \$950/acre for medium and \$1150/acre for heavy thinning. Thinning is designed for

properties greater than one acre in size and involves thinning excess trees and slash treatment. Slash treatment ranges from lopping and scattering, handing piling for later burning, or chipping and hauling. A property owner gets credit for in-kind work at a rate of \$15.39/hour. The landowner submits an invoice for the whole cost, with dates, receipts, spreadsheets, etc. The program pays for 70% of the final cost or the maximum reimbursement rate, whichever is less. Often 70% of the actual cost exceeds the maximum reimbursement rate cap amounts. At these prices, the 20 Communities Cost-share Program has become known as "gourmet forestry".

### **Small diameter timber utilization**

How to best use timber and slash resulting from thinning projects poses a problem for Ruidoso. Leaving the wood on the ground either in whole or chipped form attracts pine beetles to an already unhealthy forest. A declining timber industry leaves few utilizers for the wood. Niche businesses are trying to fill in where other industries are unable to accommodate. Small businesses geared to utilize the small diameter timber (SDT) are encouraged through federal grant programs funded by National Fire Plan monies. Grants from the Rural Community/Economic Development Program, Collaborative Forest Restoration Program and Four Corners Sustainable Forests Partnership have contributed over \$650,000 into developing small businesses that utilized SDT in Ruidoso.

There are four different types of SDT utilization in Ruidoso. Sierra Contracting uses 1-5" diameter timber for mulch and compost. Sherry Barrows Strategies (SBS) needs 4-12" diameter timber for production of wood shavings. Bear Carvers take 6" diameter and up for their work. Firewood gatherers and furniture makers take all sizes.

### **Transportation issues**

Transportation issues are a challenge for utilization at present. Transportation costs are prohibitive to get products where they need to be and still turn a profit. For instance, the SBS factory is 17 miles outside of Ruidoso. It becomes a 30-40 mile round trip to transport SDT. There is a time cost issue that creates a disincentive for contractors hired for thinning the acreage. Ideally an entrepreneur would emerge to fill the transportation niche. While the emerging companies exist, landowners cannot support utilization at an additional cost to them, so costs get passed on to contractors. But, the contractor can realize savings if they don't need to prepare the timber for transporting. Contractors need additional money to skid, buck and deck the SDT, if they have the right equipment to get the timber to the utilizers. The prevailing perception is if a government entity pays landowners or contractors more to facilitate transportation, then you are subsidizing utilization. One side believes people need to let the market work to fill this niche. An opposing view believes the fledgling industry needs support to become viable in the short and long term.

Bart Parsons has been one person who has tried to fill the transportation gap. Parsons was skidding with a riding lawn mower. He needed a skid and wrote a Four Corners Grant to purchase a six wheel drive Polaris ATV and a 5th wheel truck that has a grapple and a cable. When Parsons put this together, SBS was the only SDT utilizer in business. He had a contract with her, but could not turn a profit at the cost per load that SBS could offer and needed to renegotiate. It remains to be seen how these emerging niche industries in transportation and

utilization can become viable in the long term. What is clear is that they are an important part in creating a comprehensive approach to the wildfire hazards facing communities.

### **Sherry Barrows Strategies (SBS)**

The vision of Sherry Barrows, founder of SBS is to create "a big eco-circle". Utilization is an effort to get things moving. SBS makes wood shavings for animal bedding and requires 4-12" diameter timber. The end product is 9 cubic feet of wood shavings pressed and bagged in 3 cubic feet bales shipped to Arizona, New Mexico, Colorado, Texas, and Oklahoma. The shavings are made from fire mitigation/fuel reduction, forest and watershed restoration by-products. The wood shavings project is an attempt to close the restoration cycle. When geared up to full production capacity, SBS can use up to 125 cords of wood a week.

SBS is part of a new industry picking up where the past sawmills in the region left off. Previously, New Mexico had 9 sawmills in the state. But when logging started to decline, the industry relocated elsewhere. There are barriers for the new emerging utilization industry stemming from people who remember how the old timber industry used to be.

In 2001, SBS received a Collaborative Forest Restoration Program (CFRP) grant, Economic Action Program (EAP) grant and a Four Corners grant totaling \$404,250 for equipment upgrades and production design. SBS also received a CFRP and a EAP grant in 2002 totaling \$143,250 for further equipment and production upgrades.

Due to low value of the SDT it has been difficult for utilizers to obtain the raw product and turn a profit without assistance. Transportation of the raw SDT to the utilization facility is a big barrier. Niche industries are needed to get the SDT from the thinned site to the utilizer.

### **Sierra Contracting**

Ruidoso deals with slash from thinning through a contract with Van Patton, owner of Sierra Contracting. The nearest landfill is in Oro Grande in Almagordo, 81 miles away. The tipping fee in Almagordo is \$13.90/ton. Patton charges \$3.75/cubic yard. Having a nearby cost-effective site is imperative for Ruidoso's municipal thinning program to work.

Patton has been working in debris utilization since 1999. He originally burned debris with an air curtain destructor, which is a big pit with a fan, but the liability insurance made it too costly. In 2000, Sierra Contracting moved to compost and mulch sales. Patton sells the material in bags and in bulk. Retail nurseries and landscaping companies are the main customers. The biggest challenge is getting people to use the products. Patton spends considerable time marketing his products to create or increase demand. Patten is working to get a contract with New Mexico State Highway to use his mulch for filter berms instead of silt fences.

Sierra Contracting has a tub-grinder used to make compost and mulch. The cost for transportation to Patton's site is covered by his contract with Ruidoso. At present Sierra Contracting is overwhelmed and needs more space for the slash coming off municipal properties. The company bought an adjoining 5-acre lot in 2002 and is expanding the compost-mulch operation.

In 2001, Patton received an Economic Action Program (EAP) grant for \$85,000 for an over the road truck to facilitate delivery of the product to Las Cruces. Out of this grant he spent \$75,000 on the truck and \$10,000 on marketing. In 2002, Van also received a \$90,000 EAP grant for a roll off truck (used), roll off containers and a slide off grapple. The truck helps with his work in Lincoln County and with the Village to pick up slash. Sierra Contracting takes approximately 200-400 cubic yards/day.

He sells the compost for \$5/cubic yard and the mulch for \$3/cubic yard. He currently breaks even, mostly because of the contract with Ruidoso.

### **Summary**

The Village of Ruidoso is exemplary in many ways in its community response to the wildfire threat. Perhaps the biggest accomplishment for Ruidoso has been its own municipal program. Ruidoso had political support and foresight to hire an urban forester who conducts a Village-wide hazardous fuels reduction program, pass Village-wide ordinances to support widespread hazardous fuel reduction, and impose building codes to reduce future wildfire risks. In addition to these impressive municipal achievements, a more comprehensive response to the wildfire threat in Ruidoso is conducted through the Ruidoso Wildland Urban Interface Group (RWUIG), also coordinated by the Urban Forester, Rick DeIaco. Ruidoso's continuing progress in fuels reduction around interface areas highlights the collaboration and cooperation of RWUIG members.

The education and outreach efforts headed by the Village Emergency Management are an additional strength for Ruidoso. The village has used a wide variety of tools and techniques to reach its people including brochures, videos, one-on-one meetings, Neighborhood Fire Watch, a reverse 911 dialing system and event driven strategies targeted to non-resident populations. The Village Emergency Management Team has successfully used grants to fund their education program which allows them to pursue a variety of creative and unique strategies.

Ruidoso's biggest remaining challenge is restoration and utilization. While Ruidoso is making good progress on their fuels reduction goals, restoration remains in the background. Without restoring the ponderosa pine forests to a regular fire regime, the cycle of unhealthy forests will continue to perpetuate.

Another challenge for Ruidoso is utilization of small diameter timber (SDT). Although the village is supportive of the small businesses currently trying to make a living in this challenging industry, these businesses are struggling at best. Ruidoso will undoubtedly have fuels reduction projects for years to come. Developing a viable SDT industry is critical for continued progress in addressing the wildfire threat.