

It is amazing how much fire one match can cause. Back in the year 2000, one match ignited the infamous Cerro Grande fire by Los Alamos, N.M. This same fire “ignited” an in-depth study of Southwestern forest conditions by the state university. This report reveals that the Cerro Grande, Scott-Able, Viveash and several other fires on government lands that same season destroyed approximately 689 square miles of habitat in New Mexico.

The report points out that the intensity of the catastrophic habitat-destroying fires was a direct result of the fuel-load biomass levels created by the Mexican spotted owl environmental lawsuit. Logging restrictions were imposed on government-controlled lands. The study reveals that U.S. Forest Service-controlled lands in New Mexico forests alone had accumulated approximately 1.4 billion board feet of fuel-load biomass buildup between the years of 1986 to 1999, as logging declined 82.4 percent during the same period. The graph included with a

# JUST ONE MATCH

*An easy way to destroy New Mexico.  
By Ric Frost*

congressional report (see next page) shows the annual decline of logging activity and the resulting fuel-load buildup.

All of the Mexican spotted owl habitat in the Los Alamos area and the owl-nesting protected locations were lost, as were many of the ground-dwelling endangered species. Other endangered and protected habitat areas were also seriously compromised or destroyed by these fires.

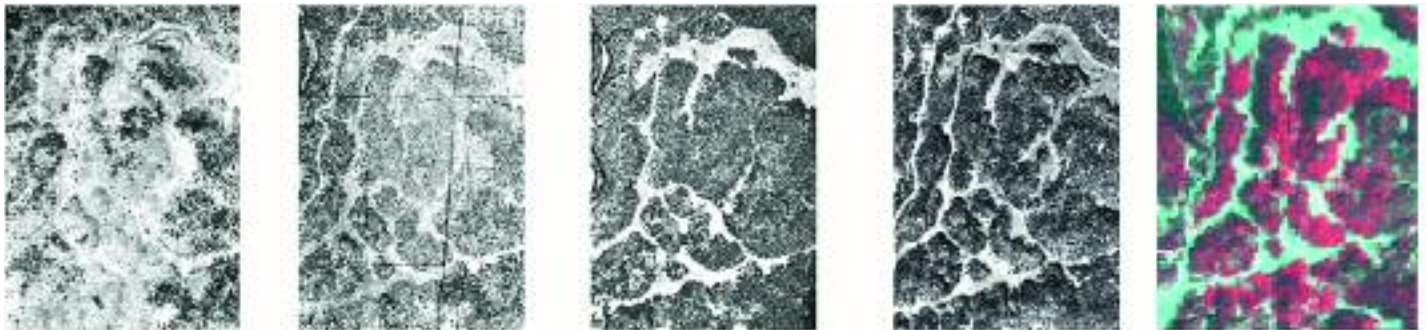
The report also points out the loss of an

entire cultural timber-harvesting infrastructure due to the owl restrictions and the resulting loss of the economic sector to rural communities in the hundreds of millions of dollars. This is in addition to the costs of fire fighting, the personal costs and loss of homes (including the threat to the Los Alamos nuclear facilities in the path of the Cerro Grande fire), as well as the human lives lost as a result of these fires. It is doubtful that the families who lost everything were concerned over the loss of a few birds.

This study ignited another fire for a separate investigation that has spanned the past six years on 22 square miles of nonfire-damaged areas in the Lincoln National Forest. Located in south central New Mexico, this is the forest where the Scott-Able fire destroyed 25 square miles, many homes, and claimed two lives. With the dedicated help of Garrett Hyatt from Deming, N.M., a work-study student at the state university, sophisticated computer equipment and programs scanned, digitized, and analyzed a combination of over

## Lincoln Forest Aerial Image Conversion

### Images Before Conversion



1942

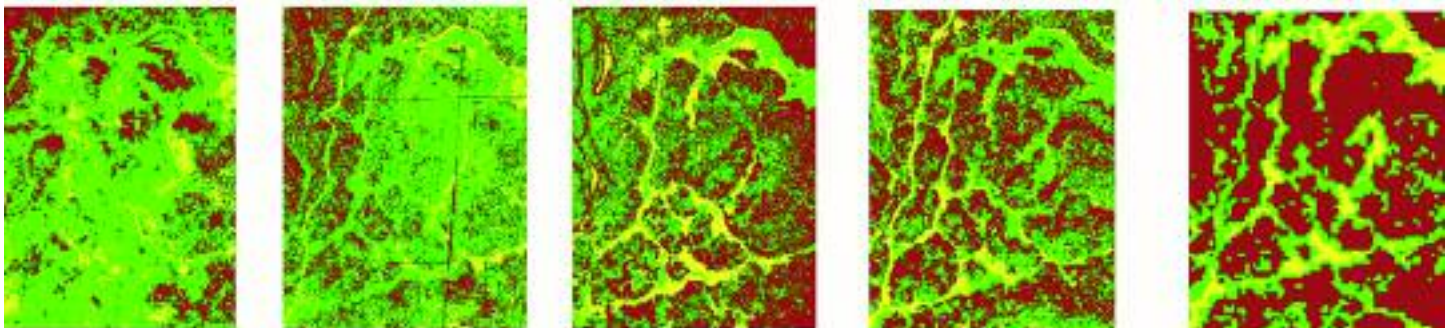
1959

1969

1996

2002

### Images After Conversion



1942

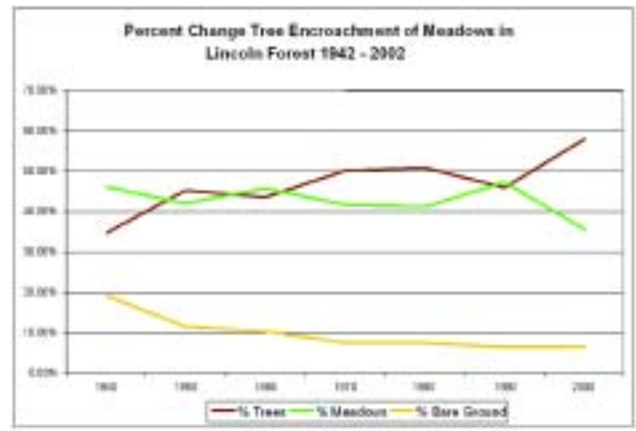
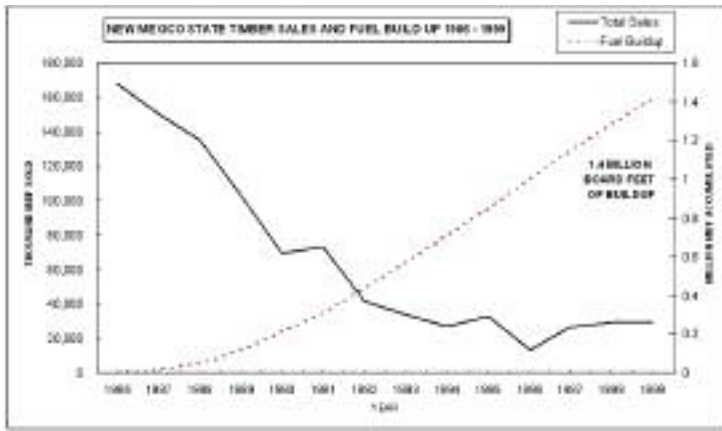
1959

1969

1996

2002

### Study Area A-1: Russia Canyon



LEFT: Logging restrictions due to Mexican spotted owl lawsuit caused diminishing harvest of timber, loss of open areas and forage for livestock and wildlife, encroachment of trees, and fuel buildup. RIGHT: Sixty-year history of relationship between open areas, meadows and trees.

800 aerial photographs from the early 1940s to the 1990s, acquired from the U.S. Forest Service. Satellite images from the early 1970s to 2004 were also evaluated to detect any changes in forest open areas and tree-density conditions.

A 15-week ground truthing treeline survey conducted during the summer and fall of 2005 verifies the latest conditions presented in the 2004 images. The 22-square-mile study area was meticulously walked with Ground Positioning Survey (GPS) equipment to track the leading edge of the tree seedling growth. Georeferenced overlapping digital photographs were taken approximately every 500 to 1,000 meters starting in an east-bearing direction, turning to the south, and continuing in a rotating direction to document the current existing tree and open-area conditions. This resulted in over 7,000 georeferenced images documenting the 2005 conditions in the Lincoln Forest. The findings of this report were presented in September 2006 to a multistate university and government agency conference held in Cloudfcroft, N.M.

The report reveals that up to 1990, the average ratio of open area to tree density occupancy was approximately constant at 44.1 percent open area, 45.1 percent tree occupied, and 10.4 percent bare ground (consisting of roads and rock outcroppings). Since 1990 to 2004, the ratios have changed considerably. The open areas have declined 19.3 percent (35.6 percent open area), the bare ground has declined 39.4 percent (6.3 percent bare ground) for a combined open space decrease of 23.2 percent, while the tree density and occupied area has increased 28.6 percent (58.0 percent tree occupancy).

This density increase corresponds with the fuel-load accumulation observed in the



RIC FROST



MEXICAN SPOTTED OWL © BOB STEELE

Trees replaced open areas of good forage and have closed the canopy with water-sucking, fire-prone saplings. LEFT: All Mexican spotted owl habitat was destroyed by fire in the Los Alamos area.

August 2000 report. It has resulted in decreased open areas along with a reduction in grasses and other forage available for cattle, horses, elk and other ungulate grazing. The graph included in this new report exposes this change (see p.73).

This situation further impairs water availability due to the demand from the increased

tree population. A rule of thumb used by most knowledgeable resource managers is that a tree approximately one foot in diameter at chest level consumes about 50 gallons of water per day.

When this figure is used to determine the water consumption rate by the acre, the numbers can be staggering. Historical records indicate this region used to hold approximately 300 to 500 one-foot-diameter trees per acre. Current reports estimate that tree density in the Lincoln Forest today range between 1,000 to 5,000 trees per acre. One can do the math and realize that conservatively we are talking about a minimum daily consumption of around 50,000 gallons *per acre!*

Extending that to square miles of forest, or hundreds of thousands of acres, the obvious conclusion is that there are too many trees for a region known for water shortages.

(Continued on page 73)





Red line shows leading edge of new tree growth encroachment. Satellite GPS images do not show these young trees.

(Continued from page 67)

No wonder so many springs and streams are not running anymore and are impaired throughout the Southwestern forests.

This closure of open areas has also affected the owls' ability to move freely about in pursuit of food. Many areas have trees so dense the owls cannot fly in them and they have moved on to other open areas where prey is easier to obtain. Yet an extremist faction of the environmental movement claims the owls are in decline and more must be done to protect them. This past December they filed another lawsuit in federal court against the U.S. Forest Service claiming this time that grazing is "jeopardizing the Mexican spotted owl." These activists refuse to acknowledge that the reason the owl has been and is in "jeopardy" is due to their own lawsuit filed back in the late 1980s that stopped logging and other biomass management practices in the first place!

Even the biological opinion issued during the initial U.S. Fish & Wildlife Service Mexican spotted owl study in 1990 declares in the executive summary that "to enhance and encourage recovery of the owl, the forests need to be managed against the probability of catastrophic fire conditions." Grazing isn't even mentioned in this initial opinion, only logging.

Other relevant scientific factors could be discussed, but that would involve reams of information that few care to read or make

known to themselves. It won't stop wrong-headed lawsuits, where science isn't what drives the court case decisions. Only slickly worded legal arguments by expensive lawyers (at taxpayers' expense) about the management agency's alleged failure on technicalities (not science) and their failure to follow legal protocol wins the day there. That is and what has been the case in many lawsuits the environmentalists have won over the past couple of decades.

The reason I know about this is because I have read and digested all of those in-depth owl and other studies over the past decade. I have witnessed the failure of the judicial system's ability to see through those slickly worded arguments and thus utterly ignore the work of the scientists and analysts who produced those documents.

I also personally mapped, walked, documented, and analyzed those 22 square miles of forest study area over the past six years, taking those 7,000-plus georeferenced photographs in 2005.

From this fire from within that started all of this research, I can say that it's only going to take one match to change it all. It's an amazing fire waiting to happen. But then who listens to one who has been there and seen it? ■

*Ric Frost is a policy analyst and natural resource economic consultant in New Mexico.*