



# THE PINCHOT LETTER

*News from the Pinchot Institute for Conservation*

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CELEBRATING 40 YEARS OF PARTNERSHIP WITH THE USDA FOREST SERVICE

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*Dedicated by former President John F. Kennedy, Jr. at Grey Towers National Historic Landmark  
to further Gifford Pinchot's forest conservation legacy.*

## Wildfire Lessons: Rethinking The “Wildland Urban Interface”

*Dr. V. Alaric Sample  
President  
Pinchot Institute for Conservation*

Something that many of us learned with our introduction to college dorm life is that you don't really know someone until you've lived with him or her. The nicest person can turn out to have some bizarre habits that make them challenging to have as a roommate.

We love forests and the beautiful, cool, green environment they create. Forests are wonderful places in which to visit, and if you are lucky enough, to live. Who doesn't dream of packing up their computer and fax machine, or perhaps their retirement check, and moving to some wooded retreat in which to both live and work? But it turns out that forests, too, can have bad habits that can make them hard to live in. They tend to burn.

The term “wildland urban interface” has been invented to describe the boundary between human and forest communities. To some, this suggests a distinct sort of threshold, like stepping from one's grassy backyard into the shade of the woods beyond. In fact, this boundary is more gradual in most instances, with fingers

of human habitation winding far into mountains and forests where they both influence, and are influenced by, natural events inherent to these functioning ecosystems.



Dr. Al Sample

In recent years, more than a few forest dwellers have seen their dream turn into a nightmare as wildfires have taken both the forest and their homes. In some instances, extraordinary and often risky efforts by firefighters have saved homes, only to leave them overlooking a charred

landscape profoundly changed from the one that attracted the homeowner there in the first place. Enormous values have been lost—not only economic and aesthetic values, but water quality, erosion and flood controls, fish habitat, biological diversity and others—thus prompting the latest crisis in forest policy. What can be done? What should be done?

### ADAPTING TO NATURE'S TERMS

The “wildland urban interface” can often be a collision between a human system that likes order, certainty, and some degree of permanence, and a natural one that tends toward unpredictability, chaos, and

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*Leadership in Forest Conservation Thought, Policy and Action*



EXECUTIVE OFFICE: 1616 P Street NW, Suite 100, Washington DC 20036 202/797-6580 FAX: 202/797-6583 WEB: [www.pinchot.org](http://www.pinchot.org)  
GREY TOWERS NATIONAL HISTORIC LANDMARK: P.O. Box 188, Milford, PA 18337 570/296-9630 FAX: 570/296-9675

what would appear to be occasional self-destruction.

In historical studies on natural fires, some of which go back a thousand years or more, fire ecologists, such as the University of Washington's Jim Agee, suggest that almost every kind of forest in the US—from the dry pine forests of the Rockies to even the temperate rain forests of the Pacific Northwest—has burned at regular intervals, and will likely continue to do so. Many forest types, most notably the ponderosa pine forests of the interior West, have been

shown to be subject to frequent low-intensity fires that tend to thin out the underbrush, kill some of the smaller trees, and leave most of the large healthy trees scorched, but still dominating the ecosystem.

But every few centuries, perhaps during periods of drought that extend for a decade or more, these and most other types of forests burn intensely over large areas. While many of the fires in recent years have been attributed to a century-long policy of aggressive fire suppression, it should be kept in mind that the landmark fires

that torched most of western Montana and northern Idaho in 1910 preceded this policy. So did the fires that Agee has shown swept through the forests of the Pacific Northwest three hundred years ago. Through research like Agee's, patterns emerge that are otherwise hard to for us to ascertain. Our understanding of the world is often framed by the context of human lifetimes. Forests operate on their own time scale.

Forest ecosystem processes also operate on their own geographic  
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## ABOUT THE PINCHOT INSTITUTE

Recognized as a leader in forest conservation thought, policy and action, the Pinchot Institute for Conservation was dedicated in 1963 by President John F. Kennedy, Jr. at Grey Towers National Historic Landmark (Milford, PA)—home of conservation leader Gifford Pinchot. The Institute is an independent nonprofit organization that works collaboratively with all Americans nationwide—from federal and state policymakers to citizens in rural communities—to strengthen forest conservation by advancing sustainable forest management, developing conservation leaders, and providing science-based solutions to emerging natural resource issues. Further information about the Pinchot Institute's programs and activities can be found at [www.pinchot.org](http://www.pinchot.org).

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scale. On a single day, June 7, 2002, Colorado's Hayman Fire raced 19 miles from Lake George to the foothills west of suburban Denver. It was stopped just short of the Rampart Range by an 8,000-acre prescribed burn that had been a center of controversy when the Forest Service conducted it the year before. The area that had been treated through prescribed burning altered the behavior of the runaway fire in a way that more limited, smaller-scale treatments simply could not have done. Though human-caused, the Hayman fire had become a force of Nature, operating on Nature's own superhuman scale.

### CHANGING THE BEHAVIOR OF FUTURE WILDFIRES

As with other wildfires last year, several of which spread over several hundreds of thousands of acres, natural as well as human values were diminished. At a June 3, 2003 Denver symposium entitled *Wildfire, Forests and Biodiversity*, sponsored by the National Commission on Science for Sustainable Forestry, some of the nation's leading forest ecologists described recent research showing the impacts on animal and plant diversity from sustained fire suppression, which was followed by unnaturally large and intense wildfires. In the Southwest, more critical habitat for the endangered Mexican spotted owl was destroyed by wildfires during the past year than has been affected by timber harvesting in a decade. Oregon's 500,000-acre Biscuit Fire entered the Kalmiopsis Wilderness and eliminated extensive areas of old-growth Douglas-fir forest, which served as habitat for the northern spotted owl and marbled murrelet.

In time, these habitats will return, but over a matter of centuries, not years. Will spotted owls and marbled murrelets still be around and able to wait for this habitat to be restored? No one really knows. The Hayman fire burned an area that is normally

about four-fifths forested and one-fifth natural openings. Now the entire 138,000 acres essentially has been converted to an opening, and natural succession will take more than 300 years to begin providing the diversity of species and habitats that existed there until recently.

If our goal is to avoid, or to at least minimize, the impacts of unnatural wildfires on values such as biodiversity, water quality, and freshwater habitat, then we must rethink our concept of the "wildland urban interface" and the purposes of our efforts there.

A large proportion of the millions of dollars that are spent each year to extinguish wildfires is actually spent trying to protect specific buildings



Protected home within the Buffalo Creek fire site.

and other structures that appear to be in the path of an approaching fire. Often, these efforts are simply overwhelmed by the sheer size and intensity of the fire, and the property is lost anyway. Similarly, most pre-emptive hazardous fuel reduction treatments are performed in small areas in the immediate vicinity of homes and other property that would be threatened in the event of a wildfire. These efforts, too, often prove futile in the face of the kind of large-scale, fast-moving, furious wildfires we are now seeing so frequently.

Arguably, the challenge of avoiding damage to specific homes and other structures is primarily the responsibility of the owner—first in making intelligent, informed choices about where to locate, and then in undertake fuels treatments in the immediate vicinity to minimize the chances of loss in the event of a fire. Major property insurers in the U.S. seem to agree, and home insurance premiums in fire-prone regions are beginning to reflect the extent to which homeowners themselves understand and act upon this responsibility by creating defensible zones around their homes.

One of the overarching lessons from the recent spate of large-scale wildfires is that, to be effective, fuels treatments need to focus less on trying to assure the survival of a particular structure or forest stand, and more on influencing the behavior of wildfires themselves. The 8,000-acre Polhemus prescribed burn, conducted by the Forest Service on the Pike-San Isabel National Forest in 2001, was successful in halting the spread of the Hayman fire, a crown fire burning under extreme conditions of high winds and low humidity. Had the fire not encountered this large-scale treated area, no amount of small-scale treatments around individual homes in the path of the fire would have saved them. It is likely that an additional several thousand acres of forest and dozens of homes would also have burned, with mounting impacts on watersheds, biodiversity and other important natural values.

### EFFECTIVE ACTION AND EVOLVING SCIENCE

Forest ecology, particularly when it comes to understanding the role of periodic, large-scale natural disturbance, is still some measure of art as well as science. Even seasoned forest scientists are finding themselves on a steep learning curve when it comes to understanding the causes and effects

of major wildfires in US forests. What is clear is that these fires have come at enormous costs, in both ecological and economic values, and even greater values that are at stake.

What can be done? What should be done? Clearly there is a need for individual responsibility and action, particularly by those who choose to make their homes in fire-adapted forests and thus must embrace the risks as well as the rewards of this lifestyle. There is also a need for prompt and decisive action by the public agencies we have entrusted with the conservation and sustainable management of vast areas of the nation's forests. To be successful and effective in the face of such an

enormous and pressing challenge, it will be important to rethink how we define the "wildland urban interface."

Moreover, we must support Federal land management agencies undertaking large-scale efforts, like the Polhemus prescribed burn—efforts aimed less at protecting specific areas and structures, and more to altering the behavior of large wildfires burning under extreme conditions. Public land managers—and the policymakers who set the rules within which these managers can act—must remain flexible, and attentive to the rapidly evolving science of fire ecology and the stark lessons that now are written on the forest landscape for many years to come.



Burned out fire damage from the 2002 Hayman fire site.

## PARTNERING THROUGH THE CFC

Considering the reality of the current marketplace, we realize that now, more than ever, we need to diversify our base of financial support, begin establishing relationships with new friends who recognize the value of our work, and build an endowment to ensure that our programs can continue to impact forest policies and conservation. Your fully tax-deductible gift made through the current *Combined Federal Campaign* (CFC) can help us do this, plus much more.

By ensuring that we have well-maintained forests, your gift also helps our nation to have cleaner air, better quality water, reduced pollution and toxic substances, sustainable timber, more affordable energy resources and supplies of fish, and properly maintained rivers, beaches, and shorelines. In turn, this gives us more opportunities for outdoor recreation, an abundant quantity and variety of wildlife, and affordable grazing lands and soil conservation for our animals.

Please don't forget us. With over 3,000 nonprofits participating annually in the CFC campaign, we want to make sure that we can continue to fund our efforts—work that directly supports yours. Only by working together can we spread the roots of forest conservation.

For more information on how to contribute through the CFC and to ensure that you're kept informed of our work and exciting events at Grey Towers, please contact Kendra Miller at 202-797-6580 or [kmiller@pinchot.org](mailto:kmiller@pinchot.org).



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