

Two Models for Increasing Private Lands Burning

Reclaiming Natural Prairie in Iowa and Nebraska



The chief of the Maxwell volunteer fire department helps hold the line on a controlled burn conducted by the Loess Canyon Rangeland Alliance in Nebraska. The trees in the background are eastern red cedars. Photo by Bill Norris.

In much of the Great Plains of North America, eastern red cedar — a native tree that is rapidly taking over grazing lands — is the common enemy of those who care about grasslands, including both livestock producers and conservationists. Because fire is increasingly seen as the best solution to the cedar problem, this tree has become an important driver of a host of different controlled burning efforts across the region.

In addition to controlling unwanted trees and shrubs, fire benefits grasslands in other ways, and so over the years a variety of cost-share programs have been created to offset the expense of burning on private, agricultural lands. Despite these funding opportunities, vast areas are in need of treatment.

VISION ■ Restore a culture of fire to Great Plains landscapes to control cedar and other woody trees and shrubs, thereby benefiting livestock producers and biodiversity.

LOCATION ■ Iowa and Nebraska

PARTNERS ■

Iowa

Agren, Inc., Loess Hills Alliance, The Nature Conservancy, USDA Natural Resources Conservation Service, U.S. Fish & Wildlife Service, volunteer fire departments in Smithland and several other locations

Nebraska

Loess Canyon Rangeland Alliance, NE Game and Parks Commission, NE Prescribed Burn Task Force, Pheasants Forever, USDA Natural Resources Conservation Service, various volunteer fire departments

FOR MORE INFORMATION ■

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For the past 10 years, private groups and public agencies in the Great Plains have been experimenting with a variety of approaches to increase the use of fire on private ranchlands. Their ultimate goal is to restore the region's fire culture — which is what it will take to conserve plains ecosystems in the long term. Approaches tried so far include hiring mobile fire crews, conducting aggressive outreach and education, sponsoring annual training courses and training burns and creating equipment caches. Fire advocates have learned that it's likely that no single approach will be sufficient in any one area, nor will one particular approach work in all areas.



The volunteer fire department in Smithland, Iowa, has been leading controlled burns in the Loess Hills for many years. Photo by Stan Buman.

Since 2002 the U.S. Fire Learning Network (FLN) has been helping Great Plains landscapes tackle the cedar problem (and other woody encroachment) by facilitating the spread of ideas and information related to getting more fire on the ground. This fact sheet is part of that effort. The case studies below illustrate why any one approach shouldn't be expected to work everywhere, and provide some insights into what it will take to restore a fire culture to the region.

Case Study #1: Working With VFDs in Western and South Central Iowa

In the Loess* Hills of western Iowa, The Nature Conservancy and partners tried for years, with only limited success, to spark the development of landowner-led controlled burning cooperatives, a strategy that has worked in parts of Texas, Oklahoma and Nebraska. It didn't matter how much outreach they conducted or how many incentives they offered — live-stock producers and other landowners in the Loess Hills were reluctant to initiate controlled burns.

The partners decided to try a different approach after learning about a volunteer fire department (VFD) located in Smithland that had been regularly leading controlled burns in the area. "After talking with the guys at Smithland, it became clear that there are lots of benefits for VFDs to lead controlled burning efforts," said Stan Buman, co-owner of Agren, Inc., a consulting company based in Carroll, Iowa.

"The training and experience that firefighters get working on controlled burns can lead to employment opportunities. In addition to the donations they receive for their work, experienced departments also compete well for grants that they can use to purchase needed equipment." In any given year, Smithland volunteer firefighters conduct about eight burns on 800 acres, and earn about \$4,000 in related donations.

In 2007 Agren launched a project to replicate the Smithland department's success in 11 western and south central Iowa counties by using a variety of outreach tactics combined with training. The U.S. Fish and Wildlife Service has helped with some of the project's training efforts. "We've gotten off to a strong start," said Buman. "After just one year of a planned three-year effort, the VFDs have burned 915 acres. We had 17 volunteers work more than 100 hours." Most of the burns are fairly small (40 acres or less) and take place in April and May.

According to Susanne Hickey, Loess Hills project director for the Conservancy in Iowa, landowners seem pleased with the outcomes. "Landowners are more likely to trust members of their local community to conduct the burns. This is one reason we're so excited about this model," said Hickey. "My feeling is this is going to go a long way toward rebuilding our fire culture."

Case Study #2: Loess Canyon Rangeland Alliance, Central Nebraska

In Lincoln County, Nebraska, volunteer fire departments are also involved in controlled burning efforts, but it is the district conservationist and a non-profit organization called the Loess Canyon Rangeland Alliance (LCRA) that have stepped up to take the lead.

The LCRA was an outgrowth of the Nebraska Prescribed Burn Task Force,

which sponsors annual fire schools, provides opportunities to participate in small demonstration burns and maintains equipment caches across the state. Despite receiving training from the Task Force, landowners in Lincoln County didn't feel comfortable leading controlled burns. One factor was the county's rugged topography. Doug Whisenhunt, an experienced fire manager who is district conservationist for the 2.2-million-acre Middle Republican Natural Resources District, took stock of the situation and volunteered to lead several burns so long as the landowners committed to help staff them. This arrangement seemed to work well and eventually Whisenhunt and others founded the LCRA. At first LCRA borrowed drip torches and other fire equipment from the Task Force but eventually — like some of the Iowa VFDs — was able to garner enough grant funding to purchase its own.

Over the years, Whisenhunt has learned how to apply fire in a way that results in 70 to 90 percent mortality of the cedar trees in a given area. Timing is the biggest factor. To date, the LCRA has treated about 9,000 acres, mostly during a six- to eight-week spring burn window when the cedars are most susceptible to fire. The combination of steep terrain and trees as tall as 40 feet make for some complex and difficult burns, but Whisenhunt's group has never had an escape.

Today the LCRA has more requests for help than it can handle. The average burn unit is 300 acres, and the group burned almost 4,000 acres in 2009, including one 1,400-acre block. Jeremy Bailey, a Conservancy burn boss and veteran prescribed fire practitioner, describes the LCRA's work as "some of the most courageous and aggressive private lands burning I've seen."

*Loess (pronounced "luss") is a type of soil created by the accumulation of clay and silt that was once in a river valley and has been deposited over time in hills by strong winds.



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The U.S. Fire Learning Network — a cooperative project of the USDA Forest Service, U.S. Department of the Interior and The Nature Conservancy — was created in 2002 to accelerate the restoration of fire-adapted ecosystems, those places where fire has been an essential natural process for centuries. The Network promotes learning and innovation among communities, public land managers and conservation practitioners around the country.