

Ecological Restoration Brief

Reprinted from TXSER Quarterly Newsletter

ERB No. 8

March, 2014

Controlling the Uncontrollable: Fire Regulation and Incentives at the Wildland-Urban Interface

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In 1984 wildland fires damaged 900 acres in a Bastrop County subdivision. 25 years later, 70 additional subdivisions had been built in high fire risk areas. The disastrous 2011 Bastrop fires did not come as a surprise to authorities (Dexheimer & Plohetski, 2011). Crises can drive new statutes and regulations but regulatory ultimatums are hard to set, incentives are foggy, and establishing the costs and benefits of prescribed fires is difficult (Stone, 2012).

There are few established rules for prescribed burns in the wildland-urban interface (WUI). If anything, the inverse held true in the past.

Policies such as the 1935 U. S. Forest Service policy to extinguish every fire by 10 am indoctrinated several generations (Forest History Society, 2012). Burn bans are accepted and welcomed by society. Command-and-control regulations often "lose sight of their original purposes ... and focus on efficiency of control" (Holling & Meffe, 1996).

As a result, local authorities have limited regulatory prescribed burn authority. In 2003, Austin assistant fire chief Kevin Baum found that much of Austin was "ripe for a massive wildfire" and "tried to get more regulatory control over how many homes were built in vulnerable areas, the type of construction materials used and the amount of defensible space required" but "there was too much resistance, primarily from developers" (Dexheimer & Plohetski, 2012).



Bastrop Fire, 2011
Photo credit: San Antonio Express-News

The Travis County Community Wildfire Protection Plan is working towards establishing regional fire-adapted communities. Rather than enforcing regulations, government entities are hoping for cooperation (Austin, 2013). The Travis County Firewise program suggests simple, low-cost activities that homeowners can undertake (Travis County Community Service Association, 2013). Given an incentive, people are more likely to “do something we want them to do;” driven by unofficial “moral rules and principles” with the perception that these choices are “good and right” (Stone, 2012). The incentive in this case is a strongly self-motivated desire to protect lives and property, and to keep insurance costs in check.

The hazards of smoke from wildfires and the accompanying negative public sentiment are a powerful incentive to conduct prescribed burns in more controlled conditions.

Deterrence policies could easily come into play in the future, instituting penalties for non-Firewise-compliant properties and public practices. Rewards and penalties often go hand-in-hand; both part of an effort to change behavior to meet the goals of the greater community, or the “commons” (Stone, 2012).



Successful prescribed burn by the Cedar Island National Wildlife Refuge in North Carolina reduces the risk of Cedar Island homes by reducing the amount of fuel available for burning during an unplanned ignition.

Photo credit: USFWS, Swan Quarter, NC

Firewise goals often come into conflict with a growing emphasis on native plant gardening, as well as policies supporting protection of endangered species habitat (Dexheimer & Plohetski, 2011).

The 2003 Healthy Forests Restoration Act emphasizes fuels management in the WUI. Frequency and severity of escaped prescribed burns are lower in states with stricter laws and regulations (Yoder, 2008). Holling & Meffe (1996) recommend regulations that eliminate rebuilding in fire-prone ecosystems and incentives to distance new developments away from these areas.

In 2011, prescribed burning legislation was introduced to the Texas House. One bill established prescribed burning standards, as well as training, education and insurance standards. Another limited prescribed burn liability on government-owned agricultural lands. Both bills died in a House committee (Gordon 2013).

Prescribed burns cost \$5 per acre in wilderness and about \$50 per acre in developed areas – a minimal expense when compared with the costs of fighting wildfires (Holestegge, 2013). Because these costs would be primarily paid by property owners, potential regulations would not be neutral (Stone, 2012). However, although all policies have immediate “winners and losers,” the long-range perspective benefits future generations (Arrow et al, 1996). Ultimately the costs of no action far outweigh the costs of prescribed burn policy and regulation.

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