

Southern Michigan Prescribed Fire Council

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**PRESCRIBED ECOLOGICAL BURNS
 FOR HOME-OWNERS**

Why do We Burn?

Many ecosystems are vitally linked to fire. In fact, our native southern Michigan plant communities are part of a fire-dependent landscape. The fires historically common in Midwestern prairies, wetlands, and woodlands were primarily conducted by Native Americans. By reintroducing fire, we are reinstating an essential ecosystem process.

Fire's exclusion in recent decades has had a dramatic effect on our landscape. Prairie, wetland, and woodland ecosystems, once rich with a diversity of plant and animal life, have now become infected with many fire-intolerant, non-native plant species. As a result, our natural areas are becoming thickets of shrubs or weeds with very little biological diversity. Fire clears the way for native plants by helping to control these invasive plants and enrich the soil. Also, fire-blackened soil absorbs more solar radiation, thus increasing ground temperature and lengthening the growing season, which benefits native plants.

By giving a competitive advantage to native species that are adapted to fire, burning controls the invasion of undesirable plants. Fire allows diverse, native plant and animal communities to thrive in our natural areas.

Burning as an Ecological Tool

Fire was an important natural part in the development and maintenance of grasslands, forests, and wetlands throughout history. For thousands of years, tallgrass prairies and open oak woodlands were kept free of shrubs by the occasional wildfires that cleared the landscape every year or two. These fires were caused by lightning or set intentionally by Native Americans, who used fire to clear areas for agriculture, improve forage for game species, stimulate berry and acorn production, and to ease travel.

Prescribed burning is the controlled application of fire to the landscape to accomplish specific conservation or land management goals. We use it to return fire to natural areas or to planted prairies and other created native landscapes so it may continue its vital role in the ecological cycle. It also reduces the heavy buildup of dead plant material, thus decreasing the threat of catastrophic wildfires.

In maintaining and restoring created native landscapes, prescribed burning recycles nutrients tied up in old plant growth, controls many woody plants and herbaceous weeds. Fire also stimulates new plant growth, especially in native plants and wildflowers. Prairie plants have very deep root systems that can grow 15 feet below the soil surface. This both protects them from fire and, as they decay, enriches the soil. Fire also promotes the viability of the prairie plant seeds. This gives them an extra advantage when competing with non-native or invasive species. In short, fire gives a competitive advantage to native, fire-adapted species.

The mission of the Southern Michigan Prescribed Fire Council is to protect, conserve, and expand the safe use of prescribed fire on the southern Michigan landscape.

Are Burns Safe?

Training

If prescribed fires are conducted by well-equipped, trained individuals who fully understand how to safely apply fire to the landscape, then yes, they are as safe as any other land management practice.

Air Pollution

Any form of combustion, including prescribed fires, will produce *some* air pollutants. However, most of the visible smoke in a hot prairie fire is actually water vapor. Still, smoke does contain particulate matter that can be irritating to people. Thus, burning should be conducted when atmospheric conditions allow for maximum lifting and dispersal of smoke away from roads, residences, and other smoke-sensitive areas. Neighbors must also be notified prior to any prescribed burn. Finally, in yards where turf grass has been replaced by prairie grass, consider that any air pollution produced by annual burning will be *significantly* less than the air pollution produced by operating a lawn mower over the same time period.

Additional Safety Measures

Anyone considering conducting a prescribed fire must work closely with the local fire department, who will likely need to issue a permit for the burn to be conducted. They may even ask to review your "burn plan" - a written document that explains all the safety considerations and contingency plans for your site. Additionally, an ample supply of water must always be on hand in case the fire does not go as planned.

How Quickly Will an Area Recover?

Burned areas re-green very rapidly, especially following spring burns. Solar heat absorbed by the blackened surface warms soil quickly. Plants respond by vigorously sprouting and sending up shoots. It is amazing to visit these areas periodically after a burn and see the fast rate of new, lush, plant growth.

Should I Burn My Own Remnant or Planted Prairie?

You must first evaluate your site's individual safety considerations, both for people directly involved with the fire and for others in the vicinity of the burn, such as neighbors or people driving by. A big consideration is not just controlling the fire, but controlling the smoke as well. You don't want to smoke out a highway, a school or business, an asthmatic neighbor, or any other smoke-sensitive area.

You also need to consider whether YOU understand fire safety and weather conditions well enough to know if you can safely conduct the burn and accomplish your ecological goals. Do you have the proper equipment? Can you objectively evaluate fire safety and not let your emotions or adrenaline get in the way? What happens if something doesn't go as planned? Do you have a contingency plan? Can you afford the suppression costs that you may incur if the local fire department needs to come out and control your fire, not to mention any third-party damages?

These are all very real situations that you should consider quite thoroughly. As in most potentially dangerous situations, it's best to leave prescribed burns to the experts. Ninety-nine percent of prescribed burning is planning, the other one percent happens after you ignite the fire.

The Southern Michigan Prescribed Fire Council hopes to provide additional hands-on training for landowners to increase their ability to conduct prescribed burns. For now, we do hold an annual 2-day prescribed burning workshop (next one: September 12-13, 2003, in Lansing). We also maintain a list of contractors who conduct prescribed burns. For more information about any of these, please visit our website or contact our current Chair, both listed on the front of this fact sheet.

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