

Prescribed Burning Act



Executive Summary

Prescribed burns are the intentional and strategic application of fires on landscape (e.g., prairies, forests, agricultural lands).¹ They are used to reduce risk of intense, uncontrolled fires and help maintain natural species.

Landowner willingness to use this tool is affected by concerns over risk of escaped fires and legal liability.² Currently in Missouri there is no prescribed burning legislation for liability or requirements. [HB369](#) and [SB301](#) establish the Prescribed Burning Act and specify that the landowner or their agents would not be held accountable for any damages that are caused by a prescribed burning, unless the landowner or agent are found to be negligent. Negligence is defined as failure to use such care as a reasonable, prudent and careful person would use under similar circumstances.

Highlights

- State policies vary based on liability standards and the requirements for prescribed burns. Typically states with simple/gross negligence liability standards also have stricter requirements for prescribed burns compared to states with strict negligence standards.
- States whose statutes have simple liability and stringent prescribed burn requirements are often called **right-to-burn laws**.
- Prescribed burns can reduce risk of intense and uncontrolled fires.
- They help maintain diverse plant and animal populations.
- State level liability laws affect landowner willingness to use prescribed burns.
- The federal costs associated with prescribed burning are significantly lower than the costs associated with suppressing fires, which are prevented largely by prescribed burnings.

Limitations

- Since state negligence laws and requirements for prescribed burns vary across the nation, it is hard to conduct impact assessment studies that measure prescribed negligence laws and requirements with wildfire outcomes.
- Some of the ecological benefits (e.g., control invasive species) are hard to quantify economically, and because of that, they are rarely included in cost/benefit studies.

Research Background

Prescribed Burns

Fire suppression increases the risk of intense and uncontrolled fires and has significant ecological impacts, often reducing biological diversity of plants, animals, and soil.³ Prescribed fires are planned, low-intensity fires used for specific goals, often to reduce risk of severe wildfires or

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support growth of diverse plants and animal species.⁴ Developing a burn plan is recommended practice for prescribed burning, and involves identifying the desired outcome and setting requirements for weather conditions, smoke, and what to do if the fire escapes the planned area.⁵ Poorly planned fires can present a health and safety risk from smoke inhalation in nearby communities, loss of visibility due to smoke on roads, and damage from escaped fires.³ The Missouri Department of Conservation provides guidance and educational opportunities to landowners on controlled burns, and landowners may also seek professional services from prescribed fire contractors, or work with prescribed burn associations.^{5,6}

Liability Rules

Landowners are often hesitant to use prescribed burns due to concerns of liability. This can range from strict liability (burners liable for harm even when a plan is in place), simple negligence (liable for harm if reasonable care is not taken), or gross negligence (burners are liable only demonstrating reckless disregard for regulations).³

Research comparing data from 2008 to 2013 found that landowners operating under gross negligence liability rules burn more acres than those in areas with no liability regulations.³ Studies also find that there was no additional damage or increased suppression cost reported due to escapes or spot fires from prescribed burns in states where liability laws were placed.¹⁴ State-level data from 1970 to 2002 suggests that strict liability states have fewer escaped fires,^{7,8} **and the risk of an escaped fire from a prescribed burn is estimated to be less than 1%, while lawsuits are rare.**²

Finally, when prescribed burn insurance is combined with state statutes, burners may be better protected from the risks of liabilities associated with conducting prescribed burns. Moreover, although insurance coverage for prescribed burning is relatively new to the insurance market, insurance policy options include personal injury, property damage, medical expenses and more. The costs associated with smoke damages or other damages incurred from a prescribed burn will overall be lower for the farmer/burner under the prescribed burn insurance coverage, because it is unlikely that the prescribed burn insurance can prove burner negligence if prescribed burns are conducted properly.¹³

Reduced liability & substantive regulation

The majority of the states have enacted prescribed burning legislation, although the objectives and program details vary among the states. **The proposed legislation would define liability on prescribed burns.**

States whose statutes have shifted toward weaker liability and more stringent statutes are often **called right-to-burn laws.** Due to the perceived public benefits of the right-to-burn laws, the statutory changes are used as **an attempt to induce more burning by reducing the expected costs to burners of performing prescribed fires while still providing incentives for precaution by both burners and their neighbors.**⁸

Additionally, the shift toward more substantive regulation and reduced liability standards tend to reduce burners'/farmers' costs of burning. Then, the neighbors may have to bear the additional risk associated with any prescribed fire on nearby land. Because of that, neighbors will therefore have an incentive to put in place additional precautions, such as vegetation management, will eventually provide public benefits for the same reason that prescribed burning itself does (because a burner's

neighbor could be a burner too). “Thus, shifting the risk of prescribed fire to a neighbor provides a **multiplier effect for private wildfire risk mitigation** that would otherwise have to be addressed by additional instruments such as regulations or subsidies for vegetation management.”⁸

Similar regulation

Currently, Missouri is one of five states in the nation that does not have a prescribed burning legislation in place and due to undefined liability, there are no insurance options offered for farmers or contractors who consider using prescribed burns in Missouri.

Across the states, we see that state legislations are considering negligence standards & requirements together. For example, it is often the case that states with simple/gross negligence liability laws also have strict requirements for prescribed burns in place, while states that follow the strict negligence liability standard do not have a lot of requirements in place.

Some of the states that have similar legislation with the one that is proposed under HB369 include **Florida**, which was the first state to enact a prescribed burn law in 1990. The state has revised since then and modified it from former simple negligence standard into a gross negligence standard. At the same time, the state has some of the most substantive requirements for prescribed burns.¹⁴

Similarly, **Alabama** has a simple negligence standard regarding damages from burns, and a relatively large number of requirements for burning, including notifying adjacent landowners and state agency prior to burn, and receive authorization from the agency.

Other states like **Georgia** have fewer legal requirements for prescribed burns, but have very stringent liabilities with penalties for violating the open burn laws (fines & imprisonment).

Kentucky passed its first prescribed burn law in 2016, and since 2018-19 has new regulations for prescribed burn, certified burn managers’ training and experience, burn plans, and notification, etc.¹⁴

In 1999, **Mississippi** adopted its first prescribed burning law, following the simple negligence standard for damages. The state only requires that prescribed burns must have a trained, certified burn manager on site, and a burn plan prepared.¹⁴

North Carolina has a simple negligence standard for damages, but its requirements for burns vary based on separate geographic regions. State agency notification and authorization are required for certified prescribed burns in all counties, as well as neighbor notification and trained and experienced certified burn manager and burn plan on site, and the burn plan has minimum standards.¹⁴

South Carolina has a gross negligence standard for smoke related damages and simple negligence for other damages, it also has a long list of prescribed burns requirements.¹⁴ Prescribed burns require a trained and experienced certified burn manager present on site, and a burn plan, with several required elements, present on site.¹⁴

Tennessee enacted its prescribed burn laws in 2012 with a simple negligence standard and its requirements vary based on the season (with stricter rules from October 15 to May 15). In addition to these rules, prescribed burns must have a trained, certified burn manager and burn plan on site, but the contents of the burn plan are not regulated.¹⁴

Virginia follows a simple negligence standard and requires that prescribed burns must have a trained and experienced certified burn manager and preapproved burn plan that contains several elements on site.¹⁴

Economic Considerations

The costs of prescribed burning are influenced by biophysical, economic, and social factors.⁹ From an economic perspective, prescribed burns are evaluated by their costs and benefits, efficiency, risk, and the wildland-urban interface. Costs include the fire preparation requirements like fuel, as well as potential damage from escape, smoke, air quality, and aesthetics.⁹ Overall, the costs associated with prescribed burning are significantly lower than the costs associated with uncontrolled wildfires, which are prevented largely by prescribed burning plans,⁹ and studies find that the federal government spends more money suppressing fires than it does on planned, prescribed burns (Figure 1).¹²

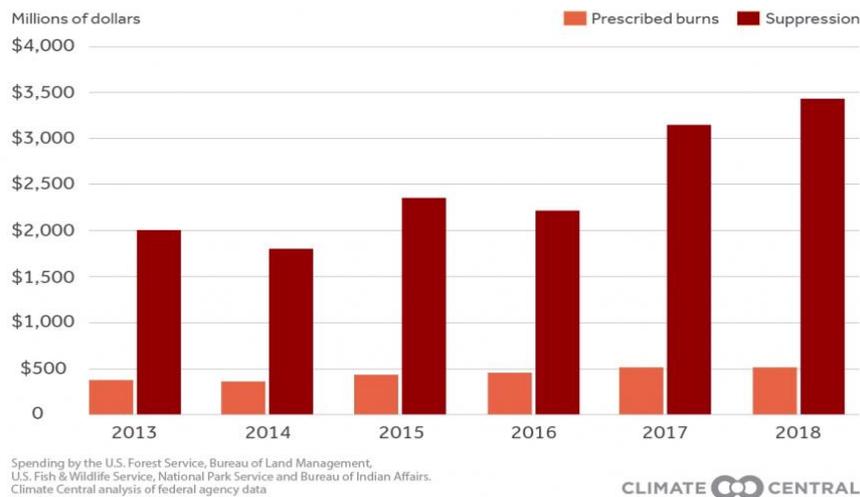


Figure 1. Spending on fire suppression vs. spending on prescribed burns¹²

The benefits of prescribed burning can be economic, financial, and nonmarket. Nonmarket benefits are hard to measure because they are not easily integrated in economic models. Unlike market goods and services that are sold for prices that reflect the costs of production and what people are willing to pay, nonmarket values need to be prescribed a market value by methods such as revealed preference and stated preference. After these methods are applied, researchers can use observations of purchasing decisions and other behavior to estimate nonmarket values.¹⁰ However, research evaluating the long-term nonmarket benefits or nonmarket costs are missing from economic models, or policy recommendations. One example of a nonmarket benefit is the value of reducing fire hazard to old growth forests,¹¹ or viewing wildlife.

References

1. Prescribed Fire: Does It Have a Place on My Land? *Penn State Extension* <https://extension.psu.edu/prescribed-fire-does-it-have-a-place-on-my-land> (2020).
2. Weir, J. R. *et al.* Liability and Prescribed Fire: Perception and Reality. *Rangel. Ecol. Manag.* **72**, 533–538 (2019).
3. Wonkka, C. L., Rogers, W. E. & Kreuter, U. P. Legal barriers to effective ecosystem management: exploring linkages between liability, regulations, and prescribed fire. *Ecol. Appl.* **25**, 2382–2393 (2015).
4. Alcañiz, M., Outeiro, L., Francos, M. & Úbeda, X. Effects of prescribed fires on soil properties: A review. *Sci. Total Environ.* **613–614**, 944–957 (2018).

5. Altman, B. & Hagey, P. Prescribed Fire: A Management Tool. *Missouri Department of Conservation* <https://www.missouriconservation.org/conmag/2011/02/prescribed-fire-management-tool> (2011).
6. Weir, J. R., Twidwell, D. & Wonkka, C. L. From Grassroots to National Alliance: The Emerging Trajectory for Landowner Prescribed Burn Associations. *Rangelands* **38**, 113–119 (2016).
7. Yoder, J. Effects of Liability and Regulation on Prescribed Fire Risk in the United States. *Proc. Second Int. Symp. Fire Econ. Plan. Policy Glob. Vie* (2004).
8. Yoder, J. Liability, Regulation, and Endogenous Risk: The Incidence and Severity of Escaped Prescribed Fires in the United States. *J. Law Econ.* (2008) doi:10.1086/589661.
9. Cleaves, D. A. & Brodie, J. D. Economic analysis of prescribed burning. Natural and prescribed fire in the pacific northwest forests.
10. Baker, R. & Ruting, B. Environmental Policy Analysis: A Guide to Non-Market Valuation. <https://www.pc.gov.au/research/supporting/non-market-valuation> (2014).
11. Loomis, J. & Gonzalescaban, A. Estimating the Value of Reducing Fire Hazards to Old-Growth Forests in the Pacific-Northwest - a Contingent Valuation Approach. *Int. J. Wildland Fire* **4**, 209–216 (1994).
12. <https://www.climatecentral.org/news/report-the-burning-solution-prescribed-burns-unevenly-applied-across-us>
13. <https://research.cnr.ncsu.edu/blogs/southeast-fire-update/insurance/>
14. Han, X., Frey, G. E., & Sun, C. (2020). Regulation and Practice of Forest-Management Fires on Private Lands in the Southeast United States: Legal Open Burns versus Certified Prescribed Burns. *Journal of Forestry*, 118(4), 385-402.