

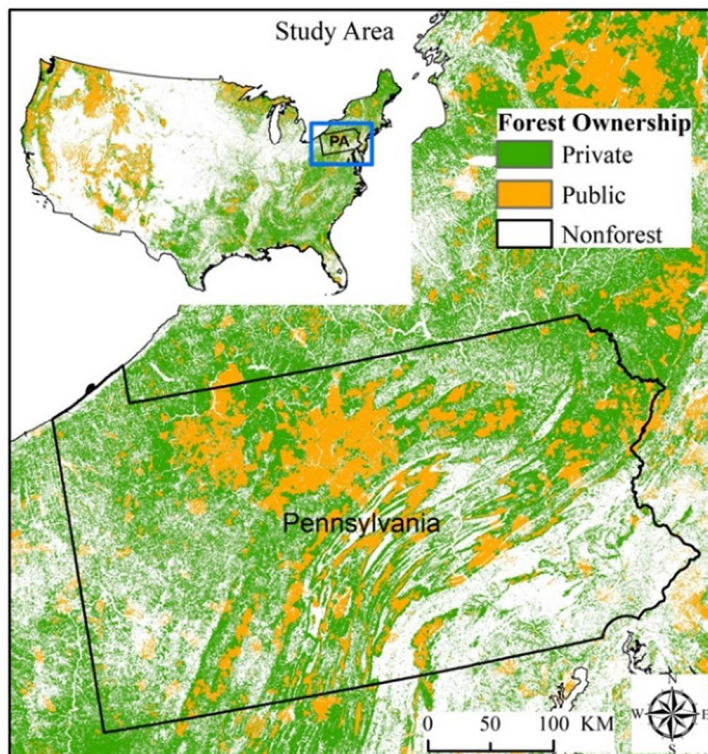


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Pennsylvania Private Forest Landowners Desire to Use Prescribed Fire

Recent fire history studies indicate that fire occurred frequently in Pennsylvania prior the suppression era (in fact, now documented to pre-1492, Marschall and others 2022). In the past decade, the application of prescribed fire on public lands in PA has increased substantially – nearly 22,000 acres were burned in 2021. Fire is applied to restore oak and pine systems, improve wildlife habitat, and sustain fire-adapted plant communities. However, the great majority (70%) of forest land in PA is privately owned and very little prescribed fire has yet to occur on those lands. A new paper titled “**Forest landowner demand for prescribed fire as an ecological tool in Pennsylvania, USA**”, authored by Arun Regmi, Melissa Kreye, and Jesse Kreye, provides insights on the attitudes of private landowners towards the use of prescribed fire to manage their own land. This research was funded by the National Institute of Food and Agriculture (NIFA) and the [Joint Fire Science Program \(JFSP\)](#). This study is unique in that it assesses attitudes about prescribed fire in a region where wildfire risk is low and thus the primary goals of using fire are ecological (e.g., wildlife habitat improvement).



Study Objective and Methods

- Explore the potential for establishing a prescribed fire economy in PA by examining landowner demand for prescribed fire services.
- 243 landowners completed a survey that included questions on their knowledge of prescribed fire and its perceived risk, the benefits of using fire on their land (e.g., oak regeneration, wildlife habitat, forest health), costs they'd be willing to pay, and their trust in prescribed fire practitioners.
- The large majority of respondents were male, over the age of 45, and had earned a bachelor's degree or equivalent. Also, a majority had enrolled in landowner assistance programs and belonged to a private landowner association, indicating a relatively high degree of engagement with active management.

Key Findings

- Most landowners had relatively limited personal experience with or formal knowledge of prescribed fire.
- Most did not perceive a high level of fire risk (including timber value loss) and also had high levels of trust in prescribed fire practitioners, likely resulting in part from the recent increase in prescribed fire on public lands.
- In general, landowners were willing to pay for prescribed fire services, with the amount varying across several different program scenarios that were provided in the survey.
- There was greater interest in using prescribed fire to improve wildlife habitat and recreational hunting than for enhancing oak regeneration.
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- There was a strong desire for cost-share programs to support the use of prescribed fire and landowners who had been enrolled in previous assistance programs assigned the greatest value to prescribed burning. The results suggest that, for landowners, the establishment of a partnership with an agency or conservation organization is important.
- In general, landowners favored prescribed fire being conducted by state agencies or conservation organizations rather than receiving training to conduct burns themselves (e.g., within Prescribed Burn Associations), likely due to limited experience with fire in the region, in contrast to areas such as the southeast and Great Plains.
- The authors conclude that **the social conditions (e.g., perceived benefits to forest condition, low perceived risk, trust in fire practitioners) are favorable to support the increased use of prescribed fire on private lands in Pennsylvania.** They also note that it will be important to locate early adopters, as well as provide increased outreach and education on prescribed fire effects, for its use on private lands to gain traction.

Links to papers

[Regmi, A., Kreye, M.M. and Kreye, J.K., 2023. Forest landowner demand for prescribed fire as an ecological management tool in Pennsylvania, USA. *Forest Policy and Economics*, 148, p.102902.](#)

[Marschall, J.M., Stambaugh, M.C., Abadir, E.R., Dey, D.C., Brose, P.H., Bearer, S.L. and Jones, B.C., 2022. Pre-Columbian red pine \(*Pinus resinosa* Ait.\) fire regimes of north-central Pennsylvania, USA. *Fire Ecology*, 18\(1\), pp.1-19.](#)

Authors: The authors are from the Department of Ecosystem Science and Management at Penn State University. Arun Regmi is a PhD candidate, Melissa Kreye is an Assistant Professor of Forest Resource Management, and Jesse Kreye is an Assistant Research Professor.

Regarding the study, co-author Jesse Kreye noted “*We know a lot about the ecological benefits of fire in our landscapes and how prescribed burning can be used to achieve those benefits, but without understanding how private landowners may play a role we can’t fully evaluate its potential.*”

Link to full report: [Final Report: Demand for prescribed fire on private lands in the Mid-Atlantic United States \(appalachianfire.org\)](https://www.appalachianfire.org)

2022 Appalachian Fire Science Publications

The following papers published in 2022 focus on fire science conducted in or including the Appalachian Region.

Fire History and Landscape History

Abadir, E. R., J. M. Marschall, and M. C. Stambaugh. 2022. **Working toward a fire-scar network for the Cumberland Plateau—Fire history results from Bridgestone Nature Reserve at Chestnut Mountain, Tennessee.** The Journal of the Torrey Botanical Society **149**:159-165.

[Working toward a fire-scar network for the Cumberland Plateau - Fire history results from Bridgestone Nature Reserve at Chestnut Mountain, Tennessee \(appalachianfire.org\)](https://www.appalachianfire.org/working-toward-a-fire-scar-network-for-the-cumberland-plateau-fire-history-results-from-bridgestone-nature-reserve-at-chestnut-mountain-tennessee)

Abrams, M. D., G. J. Nowacki, and B. B. Hanberry. 2022. **Oak forests and woodlands as Indigenous landscapes in the Eastern United States.** The Journal of the Torrey Botanical Society **149**: 101-121.

[Oak forests and woodlands as Indigenous landscapes in the Eastern United States](https://www.appalachianfire.org/oak-forests-and-woodlands-as-indigenous-landscapes-in-the-eastern-united-states)

Hanberry, B. B., and R. F. Noss. 2022. **Locating potential historical fire-maintained grasslands of the eastern United States based on topography and wind speed.** Ecosphere **13**:e4098.

[Locating potential historical fire-maintained grasslands of the eastern United States based on topography and wind speed \(appalachianfire.org\)](https://www.appalachianfire.org/locating-potential-historical-fire-maintained-grasslands-of-the-eastern-united-states-based-on-topography-and-wind-speed)

Lafon, C. W., G. G. DeWeese, and S. R. Aldrich. 2022. **Ericaceous shrub expansion and its relation to fire history in temperate pine-oak (Pinus-Quercus) forests of the eastern USA.** Plant Ecology **223**:569-575.

[Ericaceous shrub expansion and its relation to fire history in temperate pine-oak \(Pinus-Quercus\) forests of the eastern U.S.A. \(appalachianfire.org\)](https://www.appalachianfire.org/ericaceous-shrub-expansion-and-its-relation-to-fire-history-in-temperate-pine-oak-pinus-quercus-forests-of-the-eastern-u.s.a)

Lafon, C. W., G. G. DeWeese, W. T. Flatley, S. R. Aldrich, and A. T. Naito. 2022. **Historical Fire Regimes and Stand Dynamics of Xerophytic Pine–Oak Stands in the Southern Appalachian Mountains, Virginia, USA.** Annals of the American Association of Geographers **112**:387-409.

[Historical Fire Regimes and Stand Dynamics of Xerophytic Pine–Oak Stands in the Southern Appalachian \(appalachianfire.org\)](https://www.appalachianfire.org/historical-fire-regimes-and-stand-dynamics-of-xerophytic-pine-oak-stands-in-the-southern-appalachian)

Marschall, J. M., Michael C. Stambaugh, Erin R. Abidar, Daniel C. Dey, Patrick H. Brose, Scott Bearer, Benjamin Jones. 2022. **Pre-Columbian red pine (Pinus resinosa Ait) fire regimes of north-central Pennsylvania, USA.** Fire Ecology **18**:19.

[Pre-Columbian red pine \(Pinus resinosa Ait.\) fire regimes of north-central Pennsylvania, USA \(appalachianfire.org\)](https://www.appalachianfire.org/pre-columbian-red-pine-pinus-resinosa-ait-fire-regimes-of-north-central-pennsylvania-usa)

Saladyga, T., K. A. Palmquist, and C. M. Bacon. 2022. **Fire history and vegetation data reveal ecological benefits of recent mixed-severity fires in the Cumberland Mountains, West Virginia, USA.** Fire Ecology **18**:1-20.

[Fire history and vegetation data reveal ecological benefits of recent mixed-severity fires in the Cumberland Mountains, West Virginia, USA \(appalachianfire.org\)](https://www.appalachianfire.org/fire-history-and-vegetation-data-reveal-ecological-benefits-of-recent-mixed-severity-fires-in-the-cumberland-mountains-west-virginia-usa)

Fire Ecology and Management

Babl-Plauche, E., H. Alexander, C. Siegert, J. Willis, and A. Berry. 2022. **Mesophication of upland oak forests: Implications of species-specific differences in leaf litter decomposition rates and fuelbed composition.** *Forest Ecology and Management* **512**:120141.

[Mesophication of upland oak forests: Implications of species-specific differences in leaf litter decomposition rates and fuelbed composition \(appalachianfire.org\)](https://www.appalachianfire.org/mesophication-of-upland-oak-forests-implications-of-species-specific-differences-in-leaf-litter-decomposition-rates-and-fuelbed-composition)

Beals, K. K., A. E. Scarce, A. T. Swystun, and J. A. Schweitzer. 2022. **Belowground mechanisms for oak regeneration: Interactions among fire, soil microbes, and plant community alter oak seedling growth.** *Forest Ecology and Management* **503**:119774.

[Belowground mechanisms for oak regeneration: Interactions among fire, soil microbes, and plant community alter oak seedling growth \(appalachianfire.org\)](https://www.appalachianfire.org/belowground-mechanisms-for-oak-regeneration-interactions-among-fire-soil-microbes-and-plant-community-alter-oak-seedling-growth)

Beasley, C., D. R. Carter, T. A. Coates, T. L. Keyser, and C. H. Greenberg. 2022. **Impacts of oak-focused silvicultural treatments on the regeneration layer nine years posttreatment in a productive mixed-oak southern Appalachian Forest.** *The Journal of the Torrey Botanical Society* **149**: 166-180.

[Impacts of oak-focused silvicultural treatments on the regeneration layer nine years posttreatment in a productive mixed-oak southern Appalachian Forest \(appalachianfire.org\)](https://www.appalachianfire.org/impacts-of-oak-focused-silvicultural-treatments-on-the-regeneration-layer-nine-years-posttreatment-in-a-productive-mixed-oak-southern-appalachian-forest)

Bogges, C. M., C. Baruzzi, H. D. Alexander, B. K. Strickland, and M. A. Lashley. 2022. **Exposure to fire affects acorn removal by altering consumer preference.** *Forest Ecology and Management* **508**:120044.

[Exposure to fire affects acorn removal by altering consumer preference \(appalachianfire.org\)](https://www.appalachianfire.org/exposure-to-fire-affects-acorn-removal-by-altering-consumer-preference)

Campbell, J. W., S. M. Grodsky, M. A. Milne, P. Vigueira, C. C. Vigueira, E. Stern, and C. H. Greenberg. 2022. **Prescribed fire and other fuel-reduction treatments alter ground spider assemblages in a Southern Appalachian hardwood forest.** *Forest Ecology and Management* **510**:120127.

[Prescribed fire and other fuel-reduction treatments alter ground spider assemblages in a Southern Appalachian hardwood forest \(appalachianfire.org\)](https://www.appalachianfire.org/prescribed-fire-and-other-fuel-reduction-treatments-alter-ground-spider-assemblages-in-a-southern-appalachian-hardwood-forest)

Gallagher, M. R., J. K. Kreye, E. T. Machtiger, A. Everland, N. Schmidt, and N. S. Skowronski. 2022. **Can restoration of fire-dependent ecosystems reduce ticks and tick-borne disease prevalence in the eastern United States?** *Ecological Applications*:e2637.

[Can restoration of fire-dependent ecosystems reduce ticks and tick-borne disease prevalence in the eastern United States? \(appalachianfire.org\)](https://www.appalachianfire.org/can-restoration-of-fire-dependent-ecosystems-reduce-ticks-and-tick-borne-disease-prevalence-in-the-eastern-united-states)

McClure, A. B., T. A. Coates, J. K. Hiers, J. R. Seiler, J. J. O'Brien, and C. M. Hoffman. 2022. **Estimating heat tolerance of buds in southeastern US trees in fire-prone forests.** *Fire Ecology* **18**:32.

[Estimating heat tolerance of buds in southeastern US trees in fire-prone forests \(appalachianfire.org\)](https://www.appalachianfire.org/estimating-heat-tolerance-of-buds-in-southeastern-us-trees-in-fire-prone-forests)

Stambaugh, M. C., D. C. Dey, J. M. Marschall, and C. A. Harper. 2022. **Fire in eastern oak forests—a primer.** NRS-INF-39-22. Madison, WI: US Department of Agriculture, Forest Service, Northern Research Station. 15 p. **39**:1-15.

[Fire in Eastern Oak Forests — A Primer \(appalachianfire.org\)](https://www.appalachianfire.org/fire-in-eastern-oak-forests-a-primer)

Vaughan, M. C., D. L. Hagan, W. C. Bridges Jr, K. Barrett, S. Norman, T. A. Coates, and R. Klein. 2022. **Effects of burn season on fire-excluded plant communities in the southern Appalachian Mountains, USA.** Forest Ecology and Management **516**:120244.

[Effects of burn season on fire-excluded plant communities in the southern Appalachian Mountains, USA \(appalachianfire.org\)](https://appalachianfire.org)

Wu, H., Z. D. Miller, R. Wang, K. Y. Zipp, P. Newman, Y.-H. Shr, C. L. Dems, A. Taylor, M. W. Kaye, and E. A. Smithwick. 2022. **Public and manager perceptions about prescribed fire in the Mid-Atlantic, United States.** Journal of environmental management **322**:116100.

[Public and manager perceptions about prescribed fire in the Mid-Atlantic, United States \(appalachianfire.org\)](https://appalachianfire.org)

Wildfire

Reilly, M. J., S. P. Norman, J. J. O'Brien, and E. L. Loudermilk. 2022. **Drivers and ecological impacts of a wildfire outbreak in the southern Appalachian Mountains after decades of fire exclusion.** Forest Ecology and Management **524**:120500.

[Drivers and ecological impacts of a wildfire outbreak in the southern Appalachian Mountains after decades of fire exclusion \(appalachianfire.org\)](https://appalachianfire.org)

Robbins, Z. J., E. L. Loudermilk, M. J. Reilly, J. J. O'Brien, K. Jones, C. T. Gerstle, and R. M. Scheller. 2022. **Delayed fire mortality has long-term ecological effects across the Southern Appalachian landscape.** Ecosphere **13**:e4153.

[Delayed fire mortality has long-term ecological effects across the Southern Appalachian landscape \(appalachianfire.org\)](https://appalachianfire.org)

Zhang, A., Y. Liu, S. Goodrick, and M. D. Williams. 2022. **Duff burning from wildfires in a moist region: different impacts on PM 2.5 and ozone.** Atmospheric Chemistry and Physics **22**:597-624.

[Duff burning from wildfires in a moist region: different impacts on PM 2.5 and ozone \(appalachianfire.org\)](https://appalachianfire.org)

The Blue Ridge Fire Festival
@Lake James State Park

EARTH DAY
APRIL 22, 2023
10 AM - 2 PM

2229 LAKE JAMES STATE PARK RD. NEBO

Meet Smokey Bear!

A CELEBRATION OF PRESCRIBED FIRE IN THE MOUNTAINS!

Activities
Scavenger Hunt
Food Truck!

Learn how prescribed fire is "good" fire in reducing wildfire risk, promoting new growth and healthy forests and how a little smoke from a prescribed burn can prevent a lot of smoke later!

PRESCRIBED BURN DEMO!

NORTH CAROLINA STATE PARKS
Wildland Management



Have you Seen the New CAFMS Blog?

We want to highlight our new blog! [Blog | Cafms \(appalachianfire.org\)](https://appalachianfire.org/blog/)

The first entry was written by Mary Arthur! Mary has served as a valuable member of our CAFMS users board for many years. She recently retired and wrote a beautiful reflection of her career! Don't miss it!

While you're visiting the new website to read the blog don't forget to sign up as a CAFMS member.

If you are already a member, please update your information at the link on the homepage to continue receiving our newsletter and stay informed.



**Workshop 17
is in Black Mountain, NC
May 23-25, 2023**

This workshop will be held at [YMCA Blue Ridge Assembly](#) to feature the Central Blue Ridge Escarpment landscape.

Registration opens April 3rd.

Check out the meeting outline by clicking the SBR FLN logo, above.

We look forward to seeing you soon!



7th Fire in Eastern Oak Forests Conference

May 16-18, 2023

Tyler, Texas - Holiday Inn Tyler Conference Center

Website: <https://cvent.me/ev1DL>

REGISTRATION IS OPEN!! March 31st is the deadline for early bird registration with a discounted rate.

Call for research and management posters

We invite poster presentation submissions on any aspect of fire in eastern North American oak ecosystems. Research posters may relate to any aspect of fire science such as fire regimes, fire effects, fuels, GIS/remote sensing, hydrology, soils, wildlife, or human dimensions. Management posters may highlight specific fire-related projects and / or programs.

Key sponsors and supporters of this conference include:

- Oak Woodlands & Forests Fire Consortium
- Consortium of Appalachian Fire Managers and Scientists
- Joint Fire Science Program
- Texas Parks and Wildlife Department
- USDA Forest Service Northern Research Station



Save the date for the Southern Blue Ridge TREX it will be Oct. 30 - Nov. 10, 2023. Registration opens in May.

For more SBR TREX info and updates, you can always go to our website: <https://apfire.wixsite.com/sbr-trex>



CAFMS along with the Southern Fire Exchange, NC State Parks, NC Forest Service and USFS enjoyed showing the Joint Fire Science Governing Board the Party Rock Wildfire and 20 years of fire research at Green River Gamelands.

Communicate with Us!



Find us on twitter @APfirescience or find us on Facebook by searching Consortium of Appalachian Fire Managers and Scientists.

Join CAFMS:

The consortium is for all land managers and researchers in the region who deal with any aspect of fire. To join, simply provide us with some contact information at the web site listed below.

www.apalachianfire.org

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