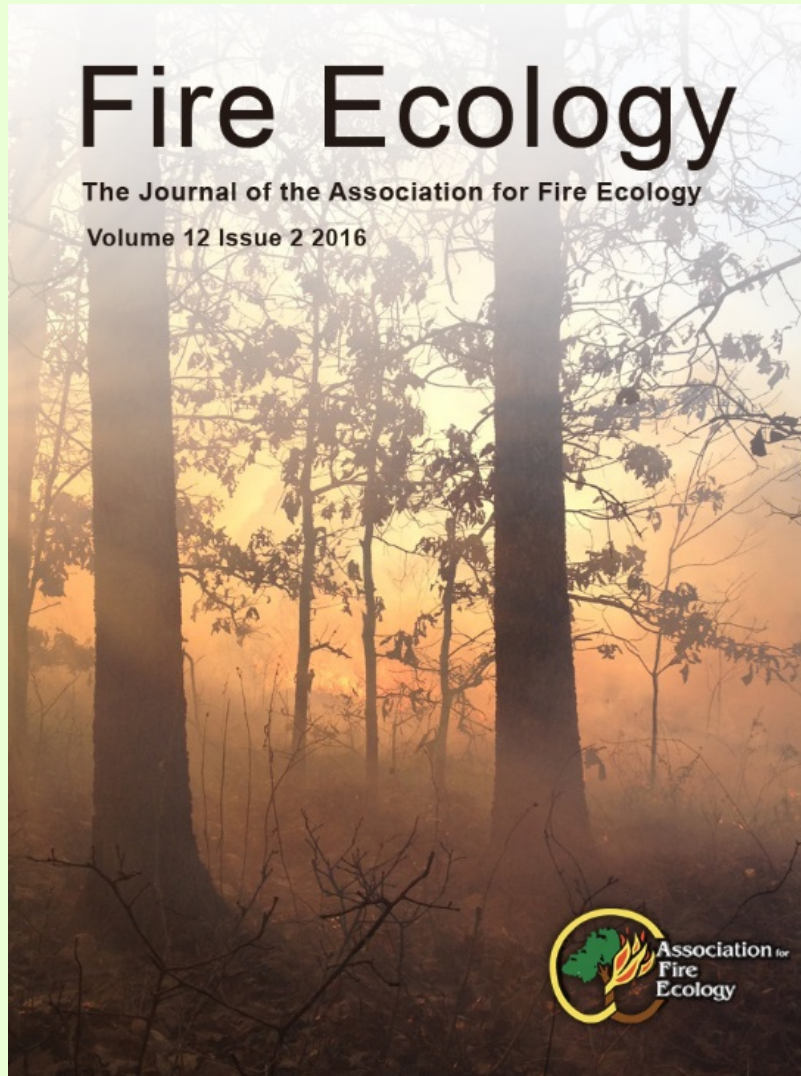




Synthesis of Fire in Eastern Oak Forests Conference

Special Edition of Fire Ecology



5th Fire in Eastern Oak Forests
Conference –
May 27-29, 2015 at the University
of Alabama

17 invited presentations 11 of
which are in the current edition of
Fire Ecology

Fire in Eastern North American Oak Ecosystems: Filling the Gaps

J. Morgan Varner, Mary A. Arthur, Stacey L. Clark, Daniel C. Dey, Justin L. Hart, and Callie J. Schweitzer

“Specific papers in this issue address the historical role of fire in the region, the response and adaptations of plant and animal species to fire and fuels treatments, and the future of these important ecosystems under a future of global change.”



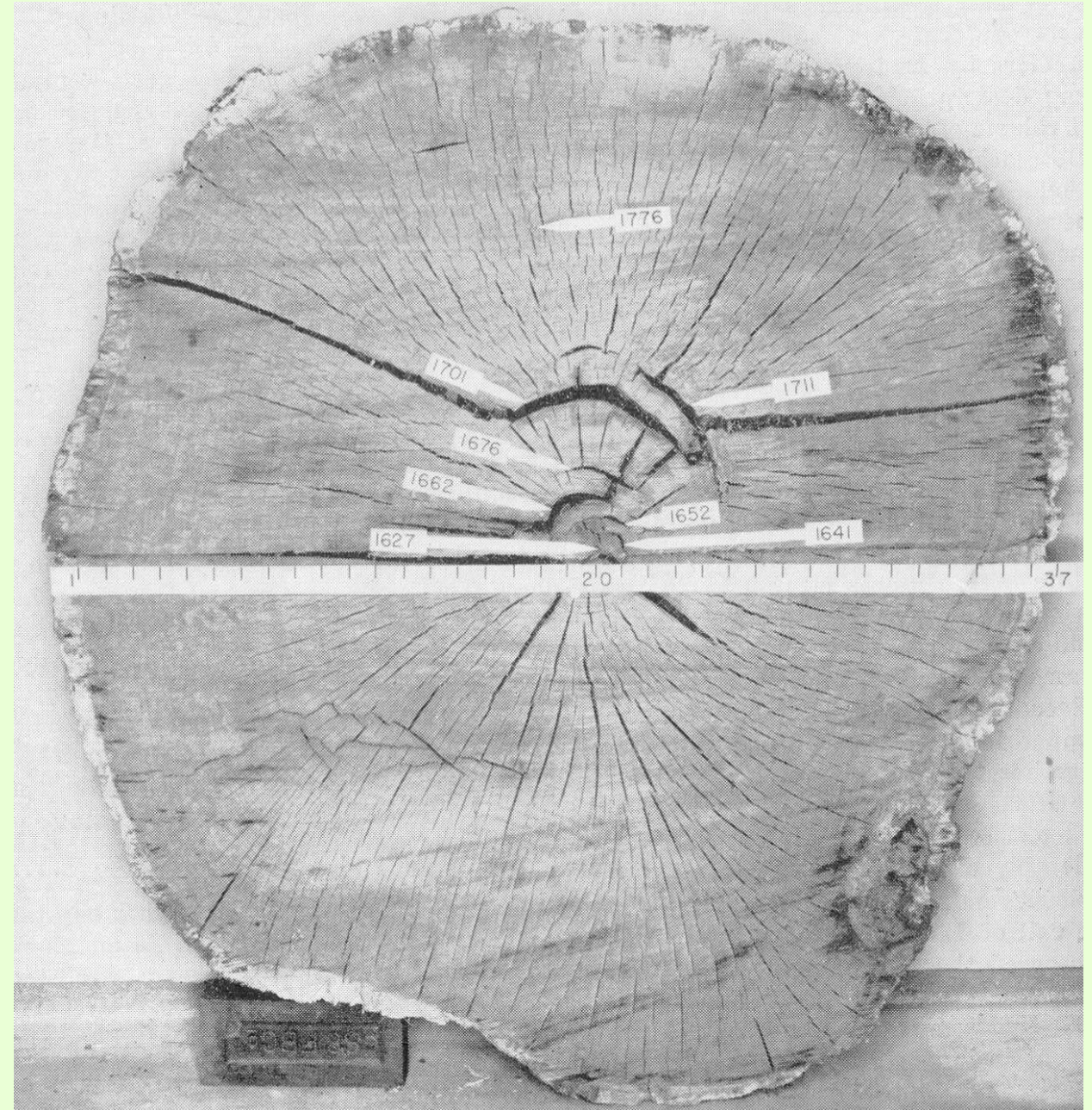
“A theme woven throughout each of these studies is that much is left unanswered about the influence of fire, and the management of fire, on past, current and future Eastern oak ecosystems.”

Sowing the Seeds of Fire and Oak in the
Eastern US: A Tribute to Buell *ET AL.*
1954

Marc D Abrams

Fire in the History of Mettler's Woods

Murray F. Buell, Helen F. Buell, and John A. Small



Repeated Application of Fuel Reduction Treatments in the Southern Appalachian Mountains, USA: Implications for Achieving Management Goals

Thomas A. Waldrop, Donald L. Hagan, and Dean M. Simon



Northern Long-Eared Bat Day-Roosting and Prescribed Fire in the Central Appalachians, USA

W. Mark Ford, Alexander Silvis, Joshua B. Johnson, John W. Edwards, and Milu Karp

“Taken in concert with the previous examinations of how northern long-eared bats on the FEF respond to prescribed burning, our study provides additional, albeit limited, data to suggest that two consecutive fires had no negative impact on the day-roost ecology of the species; positive impacts were probable at least in the short term of our limited study but remain inconclusive.”



Management suggestions:

- Decisions to reintroduce fire to central Appalachian landscapes should be based on stewardship goals other than bats.
- Reintroduction of fire to landscapes that have been fire suppressed for decades appears to have no readily discernable negative impacts to northern long-eared bat habitat and may improve forest stand structure and tree condition for day-roosting.
- Long-term impacts will need to be assessed by tracking the fate of current potential roosts and monitoring the suitability of regeneration of fire-tolerant, shade intolerant species.

Fire Effects on Wildlife in the Central Hardwoods and Appalachian Regions, USA

Craig A. Harper, W. Mark Ford, Marcus A. Lashley, Christopher E. Moorman, and Michael C. Stanbaugh

- Findings from recent research and management efforts show much promise for ecosystem restoration and enhanced wildlife management using prescribed fire when burn objectives are clearly outlined and the fires are properly implemented.
- We must recognize the utility of fire to change specific sites and landscapes in a manner that will accomplish specific management objectives that should be planned and monitored for success.
- Information is lacking on population response of many wildlife species to fire, which is obviously important, especially for declining species.
- The conservation community would benefit from a better understanding of landscape-level wildlife response and small-scale burning, as well as landscape-level wildlife response to large-scale application of prescribed fire.



Appendix 1. Recommendations and considerations when burning for various wildlife species or taxonomic groups in the Central Hardwoods and Appalachian Forest regions.

Species or taxonomic group	Recommended fire prescription	Considerations or concerns	Key citations related to habitat requirements and wildlife response
Understory-nesting songbirds	Low-intensity fire on 5 yr to 7 yr return interval in mature hardwoods	Avoid burning large, contiguous areas during nesting from April through July	Stribling and Barron 1995; Greenberg <i>et al.</i> 2007; McCord <i>et al.</i> 2014
Open-canopy songbirds	Low- to moderate-intensity fire within a 6 yr to 7 yr return interval to maintain habitat in existing woodlands	Moderate- to high-intensity fire required to develop habitat where closed canopy conditions exist and silvicultural treatment is not implemented	Wilson <i>et al.</i> 1995; Blake 2004; Bakermans <i>et al.</i> 2012; Barrioz <i>et al.</i> 2013
Shrubland songbirds	Late dormant-season fire on a 3 yr to 5 yr return interval in areas with considerable shrub cover	Avoid burning large, contiguous areas during nesting from April through July; burning just prior to green-up maintains cover for wintering sparrows	Wilson <i>et al.</i> 1995; Hunter <i>et al.</i> 2001; Thatcher <i>et al.</i> 2006
Grassland songbirds	Dormant- or late growing-season fire on a 1 yr to 3 yr return interval in grasslands that meet area constraints of grassland birds	Avoid burning large, contiguous areas during nesting from April through July; burning just prior to green-up maintains cover for wintering sparrows; late growing-season fire may help reduce woody encroachment	Hovick <i>et al.</i> 2015; Giocomo <i>et al.</i> 2008

Appendix 2. Periods of the year when burning could be problematic for various species and species groups in the Central Hardwoods and Appalachians¹.

Species or taxonomic group	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
White-tailed deer (primary fawning season)					X	X						
Eastern cottontail (primary nesting in early successional areas)			X	X								
Bats (maternal colonies in woodlands and forests)					X	X	X	X				
Wild turkey (nesting and brooding)				X	X	X						
Northern bobwhite (primary nesting in early successional areas)						X	X	X				



“We hope that this special issue of Fire Ecology helps inspire focused investigation of fire ecology and management in oak dominated ecosystems of eastern North America.”