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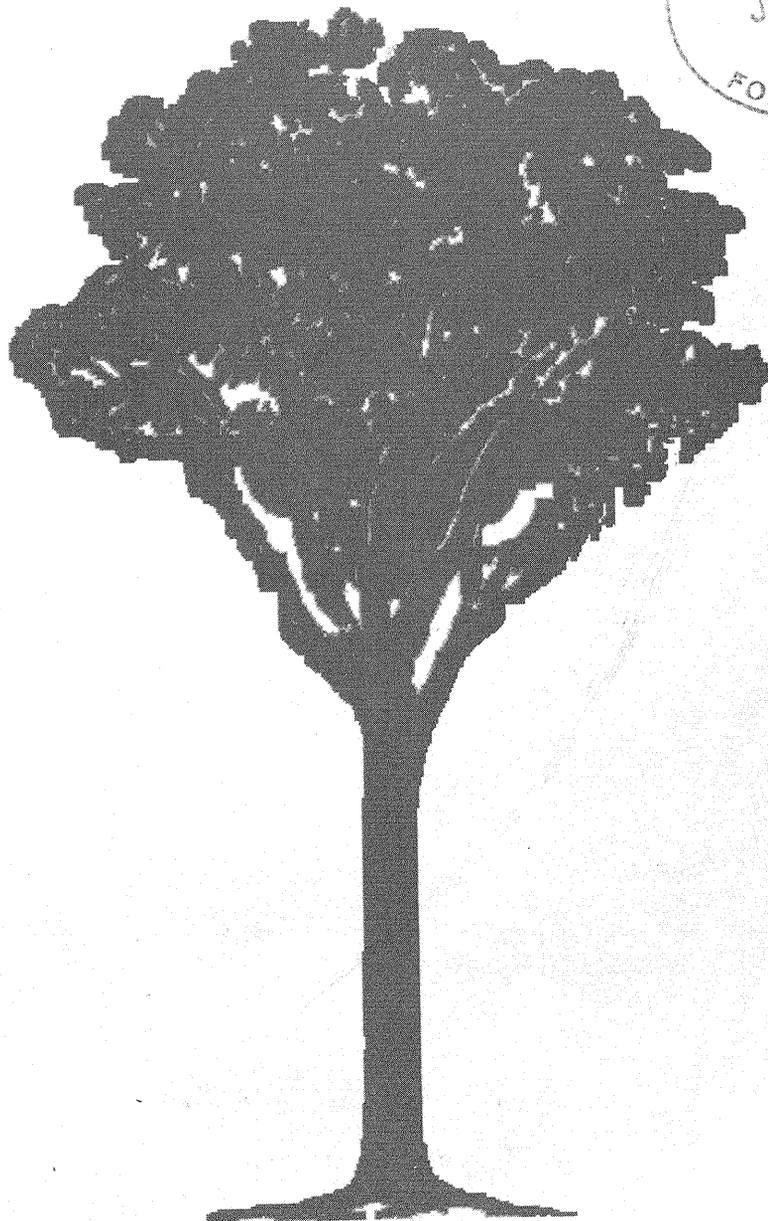
**Southern Research
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Proceedings

12th Central Hardwood Forest Conference

Lexington, Kentucky
February 28, March 1-2, 1999



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January 1999

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12th Central Hardwood Forest Conference

Proceedings of a Meeting
Held at
Lexington, Kentucky
February 28, March 1-2, 1999

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FOREWORD

The Central Hardwood Forest stretches from the upper Southeast to the Great Lakes and from Arkansas to Massachusetts. It is an oak-dominated deciduous forest occurring in hilly to mountainous areas of this vast region. As such, it is the most extensive temperate deciduous forest in the world. The tree species present are well adapted to the seasonal climate changes and the moderate rainfall found in the region. The Central Hardwood Forest developed since the last ice age as forests reinvaded the region. Land-use practices impacting the region include those imposed by Native Americans as well as significant impacts from European settlers. These impacts include burning, grazing, land clearing, logging, fire control, wildlife management, and pest introductions. These practices and impacts have influenced, to a large degree, the composition and the area covered by these forests.

One-fourth of the population of the United States lives in this region and approximately 90 percent of the Central Hardwood Forest is owned by private interests comprised primarily of nonindustrial forest owners. The Central Hardwood Forest is biologically and spatially complex. The body of knowledge developed by scientists and practitioners on the biology and management of this forest is critical to the continued health and sustainability of this forest. The Conference provides a significant opportunity for scientists and practitioners to exchange information that will ultimately play an important part in the development of the Central Hardwood Forest.

History of the Central Hardwood Forest Conference

This Conference is the 12th in a series of biennial meetings that have been hosted by numerous universities and USDA Forest Service Experiment Stations in the Central Hardwood Forest Region including:

- 1976 Southern Illinois University
- 1978 Purdue University
- 1980 University of Missouri
- 1982 University of Kentucky
- 1985 University of Illinois
- 1987 University of Tennessee
- 1989 Southern Illinois University and the North Central Forest Experiment Station
- 1991 Pennsylvania State University and the Northeastern Forest Experiment Station
- 1993 Purdue University and the North Central Forest Experiment Station
- 1995 Northeastern Forest Experiment Station and West Virginia University
- 1997 University of Missouri and the North Central Forest Experiment Station
- 1999 University of Kentucky and the Southern Research Station

Conference Purpose

The purpose of this Conference has remained the same since its inception "To provide a forum for the exchange of information concerning the biology and management of central hardwoods by forest scientists from throughout the Central Hardwood Region of the Eastern United States." As with previous conferences in this series, a wide range of subjects have been presented representing the range of research efforts underway in the region.

Central Hardwood Forest Conference—An Outlet for Peer-Reviewed Information

Since its beginning, the Central Hardwood Forest Conference has been an outlet for results of research focused on the forest itself or species that occur in the Central Hardwood Region. There were 32 oral presentations, 11 abstracts, and 22 poster presentations accepted for the 12th Conference. Poster and oral presentation abstracts were accepted for publication along with full-length manuscripts. Manuscripts have undergone a peer review process by two to three anonymous reviewers. Reviewed manuscripts were returned to authors and revised electronic manuscripts were submitted for publication to the USDA Forest Service, Southern Research Station. In total, 7 percent of the manuscripts were rejected, 36 percent required major revision, 45 percent required minor revision, and 12 percent were accepted without revision. Papers were edited to a uniform format and type style; however, authors are responsible for the accuracy and content of their papers.

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