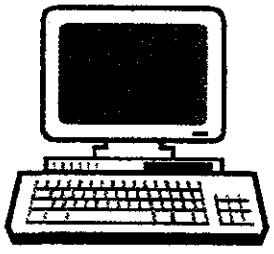
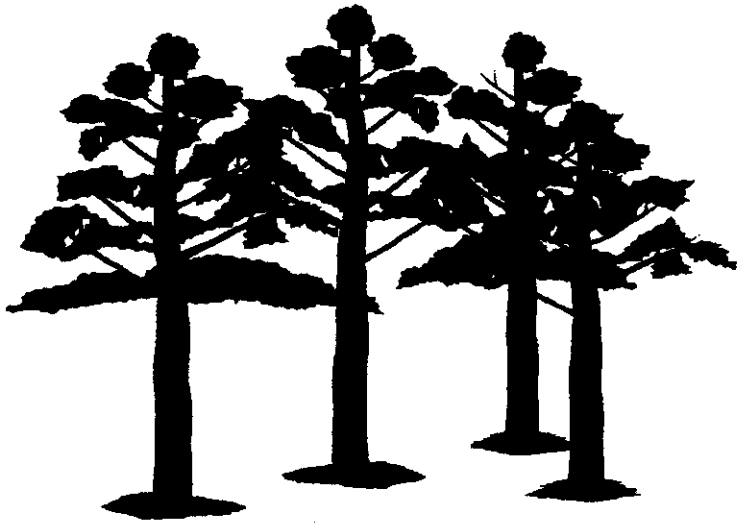
FIRST BIENNIAL NORTH AMERICAN FOREST ECOLOGY WORKSHOP





JUNE 24-26, 1997

NORTH CAROLINA ST. UNIV.

RALEIGH, NC

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WORKSHOP WAS ORGANIZED UNDER the AUSPICES OF the: FOREST ECOLOGY WORKING GROUP, SOCIETY of AMERICAN FORESTERS

J. E. COOK and B. P. OSWALD, COMPILERS

An event like the First Biennial North American Workshop requires a tremendous amount of planning and work by many people. It also requires financial and in-kind support in order to run the event at a reasonable cost.

The following individuals (alphabetically by last name) served on the steering committee and are highly deserving of recognition and thanks for all their hard work:

Tim Baker
Robert Brooks
James Cook
Jim Fralish
Craig Hedman
Barbara McGuiness
Rose Marie Muzika
Brian Oswald
David Sampson
Terry Sharik
John Zasada

The following organizations provided financial and/or in-kind support; without their assistance the Workshop would not have been possible. Please thank these organizations at the next opportunity.

Arthur Temple College of Forestry, Stephen F. Austin St. Univ.
College of Natural Resources, Univ. of Wisc. @ Stevens Point
Dept. of Forest Resources, Utah St. Univ.
Dept. of Forestry, North Carolina St. Univ.
Dept. of Wildlife Technology, Penn. St. Univ., Dubois PA
International Paper Co., Bainbridge GA
North Central Forest Experiment Station, USFS
Northeast Forest Experiment Station, USFS
Plant Ecology Projects, Inc., Carbondale IL

PREFACE

The First North American Forest Ecology Workshop, held June 24-26, 1997 in Raleigh, North Carolina, brought together scientists from across the United States and Canada. The papers and posters presented covered a wide variety of topics of concern in forest ecology today. The idea for the Workshop was conceived by Terry Sharik and John Zasada, and was unique in two ways: i) it targeted *forest ecologists*, and ii) brought them together in a format that facilitated extended discussion among the participants.

This proceeding is set up in four sections based on type of presentation (paper vs. poster), whether the associated manuscript appeared in a special issue of Forest Ecology and Management (FEM) and whether the authors wanted a full manuscript in these proceedings.

The first section is the full-text papers of some of the oral presentations given at the workshop. The second section contains the abstracts of the papers that were published in FEM. The third section is abstracts of oral presentations that the authors wished to appear in abstract form only. The last section contains the abstracts of the many posters presented in Raleigh.

As compilers, we did not edit the articles or the abstracts for content or writing style. In a similar manner, we did not try to find and correct all mechanical mistakes in the documents. Essentially, we are presenting the paper/abstract as it came to us. We did attempt (not with complete success) to standardize the major elements of style (font, heading levels, etc.) in the manuscripts; however, we were prevented from working with a few of the manuscripts and figures because of the variety of software used to create them. We hope these minor differences among articles do not detract from the "readability" or use of these proceedings.

Respectfully,

Dr. James E. Cook and Dr. Brian P. Oswald, Proceedings Compilers

We would like to extend special recognition to Christie Trifone for her help in preparing the proceedings for publication.

June, 1999

FULL PAPERS OF ORAL PRESENTATIONS

THESE ABSTRACTS ARE FROM PAPERS INCLUDED IN A SPECIAL ISSUE OF FOREST ECOLOGY AND MANAGEMENT, VOL. 114, 1999.

ORAL PRESENTATIONS THAT WERE NOT PUBLISHED IN THE SPECIAL ISSUE OF FEM, AND THAT ARE NOT PUBLISHED IN THE PROCEEDINGS AS ARTICLES.

ABSTRACTS of POSTER PRESENTATIONS

ORAL PRESENTATIONS THAT WERE NOT PUBLISHED IN THE SPECIAL ISSUE OF FEM, AND THAT ARE NOT PUBLISHED IN THE PROCEEDINGS AS ARTICLES.

Functional heterogeneity of red-cockaded woodpecker habitat in the Sam Houston national Forest: Insights for management. J.C.M. Azevedo, S.B. Jack, R.N. Coulson, D.F. Wunneburger. Braganca Polytechnic Institute and the Department of Forest Science, Texas A&M University.

Red-cockaded woodpecker (RCW, *Picoides borealis*) populations are greatly affected by the fragmentation of forest habitat through the effect on dispersal between active clusters and other suitable habitat. In order to assess the suitability of a given landscape structure for the maintenance and expansion of RCW populations, land managers need an index that correlates with the bird's perception of that structure. Rather than assuming that the application of the most common landscape metrics will provide the necessary information, we applied three indices of functional heterogeneity (as opposed to measured heterogeneity) to a GIS coverage for the Raven District of the Sam Houston National Forest using two observable scales. The GIS coverage included information on habitat suitability and RCW cluster distribution and size. The analysis indicated that the presence of cavity trees is the most important factor for RCW population maintenance and that fragmentation of the foraging habitat has much less impact. The analysis also indicated that many areas currently of high functional importance for the RCW are effectively isolated from one another. This second result has significant implications for dispersal of individuals between areas of high functionality and thus also the maintenance of RCW in this forest.