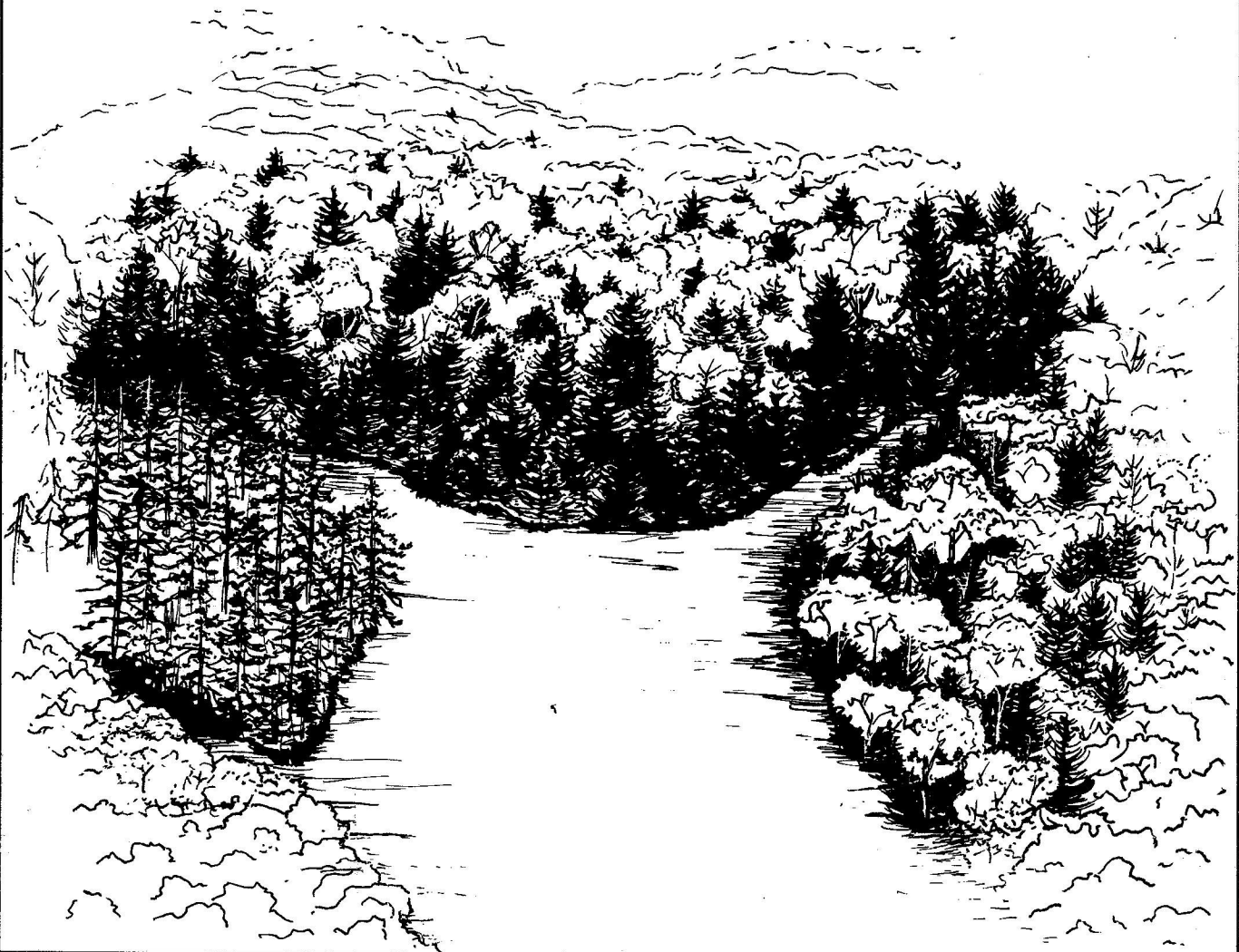


Bob McCance

# SIXTEENTH ANNUAL NATURAL AREAS CONFERENCE



October 17-20, 1989

Knoxville, Tennessee

**16th ANNUAL NATURAL AREAS CONFERENCE**

**11th ANNUAL MEETING OF THE NATURAL AREAS ASSOCIATION**

**17-20 OCTOBER 1989**

**Hyatt Regency Knoxville  
Knoxville, Tennessee**

**CONFERENCE HOST:** Wildlife and Natural Heritage Resources  
Tennessee Valley Authority

**SPONSORED BY:** Natural Areas Association

**EMERGENCY TELEPHONE NUMBER: (615) 637-1234**

**This number at the Hyatt Regency Knoxville is in service 24 hours a day. Please leave it with your family and office.**

**WORD PROCESSING BY:** C. Diane Martin  
Wildlife and Natural Heritage Resources  
Tennessee Valley Authority

**GRAPHICS SUPPORT:** Garry W. Pyle  
Graphics Services  
Tennessee Valley Authority

## **NATURAL AREAS ASSOCIATION**

The Natural Areas Association (NAA) was formed in 1978 as a not-for-profit organization of persons concerned with identification, evaluation, management, protection, and study of natural areas and other elements of natural diversity. Members include professional and volunteer researchers, natural areas managers, naturalists, conservationists, and other interested persons working for both public and private organizations. The Association is governed by a 15-member board of directors elected by its members. NAA provides support and informational services to those concerned with protection and long-term stewardship of natural areas. NAA publishes the NATURAL AREAS JOURNAL, sponsors the annual Natural Areas Conference, and promotes public understanding and appreciation of natural areas.

## **THE NATURAL AREAS ASSOCIATION ANNUAL MEETING**

The Natural Areas Conference is cosponsored each year by the Natural Areas Association (NAA), which holds its annual meeting at the conference. All conference participants are invited to attend the annual meeting. Also, be sure to stop by the NAA information desk and take a look at the NATURAL AREAS JOURNAL. Individual membership dues are \$25.00. Members include resource managers, ecologists, biologists, naturalists, and volunteers interested in protecting, preserving, and perpetuating our country's vanishing natural heritage.

## **ABOUT THE CONFERENCE**

Since its inception in 1973, the Natural Areas Conference has become the annual meeting for resource managers, biologists, ecologists, agency administrators, and volunteers concerned with identification, evaluation, management, protection, and study of natural areas and other elements of natural ecological diversity. The Conference continues to maintain a workshop format with plenty of opportunity for interaction between speakers and among participants. Last year's conference was held on the campus of Syracuse University, New York.

## **CONFERENCE LOCATION**

This year's conference will be held at the Hyatt Regency Knoxville, located in Knoxville, Tennessee, a moderate sized city of approximately 572,000 people located at the center of the eastern half of the United States. Only a 45-minute drive from Great Smoky Mountains National Park, Knoxville is surrounded by natural beauty and is proud of its rich Appalachian heritage. Three of the Nation's busiest interstate highways (I-40, I-75, and I-81) intersect at Knoxville, and major airline service is provided to McGhee Tyson Airport, located about 13 miles south of the downtown area.

## **ACCOMMODATIONS**

On a hill high above the city of Knoxville and the Tennessee River stands the unique and dramatic Hyatt Regency Knoxville, a showcase of contemporary architecture and interior design in the midst of an ever-changing panorama of sky and river, city and mountains. Located at Regency Square directly across the street from the Knoxville Civic Auditorium and Colliseum, one mile from The University of Tennessee, 45 minutes from the Great Smoky Mountains National Park, 20 minutes from McGhee Tyson Airport, and 40 minutes from Oak Ridge and the Atomic Energy Museum. Unlimited service, excitement, and ultimate attention to detail—that is the Hyatt Regency Knoxville.

## **PARKING**

The Hyatt Regency's spacious parking garage is located immediately adjacent to the hotel. Additional parking is available directly across the street at the Knoxville Civic Auditorium.

## **SESSIONS AND DISCUSSIONS**

There will be formal and informal sessions addressing the following topics:

Managing Exotic Species in Natural Areas

Natural Areas Design and Establishment

Characteristics, Management, and Restoration of  
Old-Growth Temperate Forest Ecosystems

Protection of Riverine Ecosystems as Natural Areas

Global Climate Change and the Implications for  
Natural Areas Managers

University Nature Preserves Systems

Managing and Protecting Caves and Cave Faunas

Natural Areas Signs - What Works and What Doesn't

Contributed Papers and Posters Related to Natural Areas  
Identification, Protection, and Management

## **POSTER SESSION**

This year's poster session will be set up in the John Sevier Lobby Area, and will run concurrently with other sessions on Wednesday, October 18. Authors will attend their posters on Wednesday night from 9:30 p.m. until 10:30 p.m. to answer questions and discuss their findings.

## **CONFERENCE FEES**

This year's lodging and meals package totals \$195.30 per person, double occupancy (including taxes and gratuities). A single occupancy package is also available for \$294.64. These include lodging expenses for three nights plus seven meals (3 breakfast, 1 lunch, 2 dinners, & Thursday's box lunch). An individual meal ticket is available for \$99.00 should a guest room not be required. The Thursday evening barbecue dinner and blue grass music social is optional and requires purchase of a ticket for an additional \$15.00. The conference registration fee is \$50.00 which includes field trip transportation, breaks, audiovisual support, printing and mailing costs, etc. Check in time on Tuesday is 3:00 p.m. with checkout scheduled for no later than noon on Friday. Please submit payment with registration. Conference fees can be paid by check or money order made payable to The Natural Areas Association - sorry, no vouchers permitted.



**TUESDAY - OCTOBER 17, 1989**

- 8:00 a.m. - 5:00 p.m.      **CONFERENCE REGISTRATION & CHECK IN - Ballroom Level Vestibule**
- 1:00 p.m. - 1:30 p.m.      **INTRODUCTIONS, ANNOUNCEMENTS & WELCOMING STATEMENTS  
Mississippi Room**
- 1:30 p.m. - 3:00 p.m.      **SOUTHERN APPALACHIANS OVERVIEW - Mississippi Room**  
  
Multi-Image Presentation - **Dan Pitillo**, Western  
Carolina University  
  
Geology - **Bob Hatcher**, University of Tennessee
- 3:00 p.m. - 3:30 p.m.      **BREAK - John Sevier Lobby**
- 3:30 p.m. - 5:00 p.m.      **SOUTHERN APPALACHIANS OVERVIEW (continued) - Mississippi Room**  
  
Botany & Community Ecology - **Peter White**, North Carolina Botanical Gardens  
Zoology - **Fred Alsop & Jerry Nagel**, East Tennessee State University
- 6:00 p.m. - 7:30 p.m.      **DINNER - Mississippi Room**
- 7:30 p.m. - 8:15 p.m.      **NAA PRESIDENT'S ADDRESS - Mississippi Room**  
  
**Glenn P. Juday** - President, The Natural Areas Association
- 8:15 p.m. - 8:45 p.m.      **NAA MEMBERSHIP MEETING - Mississippi Room**  
  
Elections, Annual Awards, etc. - Chaired by **Glenn P. Juday**, President,  
The Natural Areas Association
- 8:45 p.m. - 9:45 p.m.      **SPECIAL VIDEO PRESENTATION - Mississippi Room**  
  
"Saving Nature"

**WEDNESDAY - OCTOBER 18, 1989**

**7:00 a.m. - 8:30 a.m.      BREAKFAST - Kentucky Room**

**8:30 a.m. - 10:00 a.m.      CONCURRENT SESSIONS**

1. Exotic Species - William Blount South
2. Nature Preserves Design and Establishment - Panel Discussions  
Addressing "Principles in Preserve Design: Current Concepts"; and  
"Preserve Design in the Real World" - Andrew Jackson Room
3. Managing and Protecting Caves and Cave Faunas - Introduction to  
Cave Resources - Alvin York Room
4. Characteristics, Management, and Restoration of Old-Growth  
Deciduous Forest in the Southeastern United States -  
William Blount North
5. Contributed Papers - Natural Areas Identification and Preserve  
Design - Mississippi Room

**10:00 a.m. -10:30 a.m.      BREAK - John Sevier Lobby**

**10:30 a.m. -12:00 p.m.      CONCURRENT SESSIONS**

6. Exotic Species - Biological Control of Weeds - William Blount South
7. Nature Preserves Design and Establishment - Establishing State  
Nature Preserves Systems - Andrew Jackson Room
8. Managing and Protecting Caves and Cave Faunas - Life of the Cave -  
Alvin York Room
9. Characteristics, Management, and Restoration of Old-Growth  
Deciduous Forest in the Southeastern United States - William Blount North
10. Contributed Papers - Community Dynamics in Natural Areas -  
Mississippi Room

**12:00 p.m. - 1:30 p.m.      LUNCH - Kentucky Room**

**1:30 p.m. - 3:00 p.m.      CONCURRENT SESSIONS**

11. Exotic Species - Exotics Control By Management - Andrew Jackson Room
12. Nature Preserves Design and Establishment - Natural Areas Registry  
Programs - Henry Knox Room

13. Managing and Protecting Caves and Cave Faunas - Cave Management Techniques - William Blount South
14. Characteristics, Management, and Restoration of Old-Growth Deciduous Forest in the Southeastern United States - William Blount North
15. Contributed Papers - Policies For Natural Areas Protection I - Mississippi Room
16. Exotic Species - Exotics Control by Regulation - Alvin York Room

**3:00 p.m. - 3:30 p.m.      BREAK - John Sevier Lobby**

**3:30 p.m. - 5:30 p.m.      CONCURRENT SESSIONS**

17. Exotic Species - Panel Discussion addressing "Current & Future Actions to Address the Exotics Problem" - William Blount South
18. Nature Preserves Design and Establishment - Panel Discussion addressing "Local and Regional Land Trusts: Natural Areas Preservation" - Henry Knox Room
19. Managing and Protecting Caves and Cave Faunas - Protecting Caves and Cavers - Andrew Jackson Room
20. Characteristics, Management, and Restoration of Old-Growth Deciduous Forest in the Southeastern United States - William Blount North
21. Contributed Papers - Policies For Natural Protection II - Mississippi Room

**6:30 p.m. - 8:00 p.m.      DINNER - Kentucky Room**

**8:30 p.m. - 9:30 p.m.      CONCURRENT SESSIONS**

22. Nature Preserves Design and Establishment - Round Table Discussion on "University Nature Preserves Systems" - Andrew Jackson Room
23. Contributed Papers - Case Histories: Exotic Species Biology and Control - William Blount Room
24. Natural Areas Signs - What Works & What Doesn't: Round Table Discussion - Alvin York Room

**9:30 p.m. - 11:00 p.m.      POSTER SESSION AND CASH BAR SOCIAL - John Sevier Lobby**

Authors Will Attend Their Posters From 9:30 p.m. To 10:30 p.m. To Answer Questions and Discuss Their Findings

## WEDNESDAY CONCURRENT SESSIONS

### CONCURRENT SESSION 1 EXOTIC SPECIES

Chairman: Sarah Green

8:35-9:20 a.m.

"The Status of Exotic Species  
in our National Parks" -  
Eugene Hester

9:20-9:40 a.m.

"The Purple Loosestrife  
Biological Control Effort, A  
History" - Daniel Q. Thompson

9:40- 10:00 a.m.

Dealing With Humane and Animal  
Rights Interests in Controlling  
Exotic Animals" - William Ehorn

### CONCURRENT SESSION 2 NATURE PRESERVES DESIGN AND ESTABLISHMENT

8:30-9:00 a.m.

#### Panel Discussion -

"Principles in Preserve Design:  
Current Concepts"

Moderator: David Wilcove

#### Panelists

Michael Duever  
Peter White  
Joan Walker

9:00-10:00 a.m.

#### Panel Discussion -

"Preserve Design in the Real  
World"

Moderator: Kathy Seaton

#### Panelists

Norm Brunswig  
Merrill Lynch  
Lance Peacock  
Steve Gatewood  
Hubert Highnote

### CONCURRENT SESSION 3 MANAGING & PROTECTING CAVES & CAVE FAUNAS - INTRODUCTION TO CAVE

Chairman: Les Zimmer

8:30-8:45 a.m.

"Cave Wilderness Slide  
Show" - Ernest & Karen  
Kastnings

8:45-9:05 a.m.

"What is a Cave Resource?" -  
Dave Foster & Les Zimmer

9:05-9:40 a.m.

"The Cave Geosphere (Karst  
Hydrology and Geology)" -  
To be arranged

9:40-10 a.m.

"Significant Caves & the  
New Federal Cave Law" -  
To be arranged

### CONCURRENT SESSION 4 CHARACTERISTICS, MANAGEMENT, & RESTORATION OF OLD-GROWTH DECIDUOUS FORESTS IN THE RESOURCES

Chairman: Winston Smith

8:15-8:20 a.m.

Opening Remarks, Winston Smith

8:20-8:50 a.m.

"Characteristics of Old-  
Growth Mixed Mesophytic  
Forests in the Southern  
Appalachians" - Bill Martin

8:50-9:20 a.m.

"Characteristics of Old-  
Growth Forests of the Savage  
Gulf State Natural Area" -  
Mike Sherman

9:20-10:00 a.m.

"Characteristics of Old-  
Growth Forests in Bialowieza  
National Park, Poland" -  
Ludwik Tomialojc, Wieslaw  
Walankiewicz, & Tomasz  
Wesolowski

### CONCURRENT SESSION 5 CONTRIBUTED PAPERS - NATURAL AREAS IDENTIFICATION & PRESERVE DESIGN SOUTHEASTERN UNITED STATES

Chairman: John Nelson

8:30-8:45 a.m.

"Coarse Filters Versus Fine  
Filters: A Comparison of Two  
Approaches to Finding  
Potential Natural Areas" -  
James Kooser & Ralph J. Garono

8:45-9:00 a.m.

"An Assessment of Significant  
Botanical Resources in the  
Vicinity of the Proposed  
Lassics Botanical Area-Six  
Rivers National Forest:  
Phase I" - Robert Wunner

9:00-9:15 a.m.

"Status of Carolina Bays in  
South Carolina" - Stephen H.  
Bennett & John B. Nelson

9:15-9:30 a.m.

"Natural Communities and Rare  
Plant Species in Carolina  
Bays of South Carolina" -  
John B. Nelson & Stephen H.  
Bennett

9:30-9:45 a.m.

"Abandoned Railroad Corridor  
Becoming a Natural Area  
Preserve in Southwestern  
Wisconsin" - Mark Leach &  
Steve Hubner

William Blount South

Andrew Jackson Room

Alvin York Room

William Blount North

Mississippi Room

**BREAK****CONCURRENT SESSION 6  
EXOTIC SPECIES - BIOLOGICAL  
CONTROL OF WEEDS**Chairman: **Joe Abrell**

10:35-10:55 a.m.

"Past Successes and Current  
Prospects in Biological Control  
of Weeds" - **Jack DeLoach**

10:55-11:15 a.m.

"Philosophy, Procedures and Costs  
of Developing Biological Weed  
Controls" - **John Drea**

11:15-11:35 a.m.

Biological Control Prospects  
for Melaleuca" - **Robert Doren**

11:35 a.m.-12:00 p.m.

"Biological Control Prospects  
for Purple Loosestrife  
(*Lythrum salicaria*)" - **Stephen  
Hight****BREAK****CONCURRENT SESSION 7  
NATURE PRESERVES DESIGN &  
ESTABLISHMENT**

10:30 a.m.-12:00 p.m.

Panel Discussion -  
"Establishing State Nature  
Preserves Systems"  
Moderator: **Bob McCance**

Panelists

**Carol Baudler  
Michael Lipford  
Greg Brock****BREAK****CONCURRENT SESSION 8  
MANAGING & PROTECTING  
CAVES & CAVE FAUNAS -  
INTRODUCTION TO CAVE  
RESOURCES**Chairman: **Les Zimmer**

10:30-11:15 a.m.

"Bats" - **Bob Currie**

11:15 a.m.-12:00 p.m.

"Slithy Toves and  
Other Cave Creatures" -  
**To be arranged****BREAK****CONCURRENT SESSION 9  
CHARACTERISTICS, MANAGEMENT,  
& RESTORATION OF OLD-GROWTH  
DECIDUOUS FORESTS IN THE  
SOUTHEASTERN UNITED STATES**Chairman: **Winston Smith**

10:30-11:00 a.m.

"Gap Dynamics of Old-Growth  
Deciduous Forests" - **Jim  
Runkle**

11:00-11:30 a.m.

"Dynamics of Solute Movement  
Through an Old-Growth Covered  
Watershed in Great Smoky"  
Mountains National Park" -  
**Allen Moore & Wayne Swank**

11:30-12:00 p.m.

"Forest Service Research  
Natural Areas and the Study  
of Old-Growth in the South" -  
**Margaret Devall & Paul Ramp****BREAK****CONCURRENT SESSION 10  
CONTRIBUTED PAPERS - COMMUNITY  
DYNAMICS IN NATURAL AREAS**Chairman: **Arthur Spingarn**

10:30-10:45 a.m.

"Patterns and Processes in  
Northern Hardwoods at  
Landscape and Single  
Treefall Scales" - **David J.  
Mladenoff & John Pastor**

10:45-11:00 a.m.

"The Effects of Management  
on Plant Recovery on the  
Debris Avalanche at Mount  
St. Helens" - **Virginia H.  
Dale**

11:00-11:15 a.m.

"Resistance to Exotic Invasion  
in Central Indiana Old-Growth  
Forests" - **Timothy S. Brothers  
& Arthur L. Spingarn**

11:15-11:30 a.m.

"Stand Structure of an Old-  
Growth Sweetgum Stand in the  
Moro Creek Bottom of South-  
Central Arkansas" - **James M.  
Guldin, E. C. Burkhardt &  
Lance Peacock**

11:30-11:45 a.m.

"The Barrens of Southern  
Illinois" - **Alice A. Long**

11:45 a.m.-12:00 p.m.

"Glades and Rock Barrens of  
Johnson's Shut-Ins State Park,  
St. Francois Mountains,  
Missouri: Geologic Influences  
on Natural Community  
Development" - **R. Blane  
Heumann****William Blount South****Andrew Jackson Room****Alvin York Room****William Blount North****Mississippi Room**

LUNCH	LUNCH	LUNCH	LUNCH	LUNCH	LUNCH
CONCURRENT SESSION 11 EXOTIC SPECIES - EXOTICS CONTROL BY MANAGEMENT	CONCURRENT SESSION 12 NATURE PRESERVES DESIGN & ESTABLISHMENT	CONCURRENT SESSION 13 MANAGING & PROTECTING CAVES & CAVE FAUNAS - CAVE MANAGEMENT TECHNIQUES	CONCURRENT SESSION 14 CHARACTERISTICS, MANAGEMENT & RESTORATION OF OLD- GROWTH DECIDUOUS FORESTS IN THE SOUTHERN UNITED STATES	CONCURRENT SESSION 15 CONTRIBUTED PAPERS - POLICIES FOR NATURAL AREAS PROTECTION	CONCURRENT SESSION 16 EXOTIC SPECIES - EXOTICS CONTROL BY REGULATION
Chairman: Randy Nyboer	1:30-3:00 p.m. Round Table Discussion & Program Comparisons - "Natural Areas Registry Programs"	Chairman: David Foster	Chairman: Paul B. Hamel	Chairman: Linda Duever	Chairman: Brian Anderson
1:30-1:50 p.m. "The National Park Service's Integrated Pest Management Program" - Gary Johnston	Participants Don McFall Jo-Anne Rzaeki Helen Ballew	1:30-2:15 p.m. "Managing the Resource: Inventory, Planning, & Monitoring" - To be arranged	1:30-2:00 p.m. "Effects of Edge & Internal Patchiness on Avian Habitat-Use in an Old-Growth Florida Hammock" - Reed Noss	1:30-1:45 p.m. "Evaluating Natural Area Quality in Legal Context" - Linda C. Duever & William R. Mabile III	1:30-1:50 p.m. "A Model State Exotics Control Law" - Joel Greenberg
1:50-2:10 p.m. "Herbicides with Potential for Weed Control in Natural Areas" - Timothy Murphy		2:15-3:00 p.m. "Managing People: Use Levels, Access Concerns, Volunteer Programs & Interpretation" - To be arranged	2:00-2:30 p.m. "Winter Bird Communities of Old-Growth and Successional Bottomland Hardwood Forests in South Carolina & Tennessee" - Paul B. Hamel & Bob Ford	1:45-2:00 p.m. "Mammoth Cave Area International Biosphere Reserve" - George S. Gregory	1:50-2:10 p.m. "The Florida Pest Plant Council" - Robert Doren
2:10-2:30 p.m. "Exotic Forest Disease Impacts at Great Smoky Mountains National Park" - Keith Langdon			2:30-3:00 p.m. "Do Cavity-Nesting Birds Suffer from Competition for Holes in a Primaeval Deciduous Forest?" - Wieslaw Walankiewicz	2:00-2:15 p.m. "Land Between The Lakes Areas Biosphere Reserve" - Thomas D. Forsythe	2:10-2:25 p.m. "The U.S. Soil Conservation Service's Plant Materials Program, Past and Future" - W. Curtis Sharp
2:30-3:00 p.m. "Control of Feral Pigs at Hawaii Volcanoes National Park" - Larry Katahira				2:15-2:30 p.m. "The Bureau of Land Management's Vegetation Management Initiative" - James M. Colby	2:25-2:40 p.m. "The Role of the Animal and Plant Health Inspection Service in Controlling the Introduction of Problem Exotic Species and Diseases" - John H. Payne
				2:30-2:45 p.m. "Management of Areas of Critical Environmental Concern" - David C. Williams	2:40-3:00 p.m. "The U.S. Department of Agriculture Plant Introduction Program" - George A. White
				2:45-3:00 p.m. "Recent Cooperative Developments Between The Nature Conservancy and The Bureau of Land Management" - Mississippi Room James M. Colby	
Andrew Jackson Room	Henry Knox Room	William Blount South	William Blount North	Mississippi Room	Alvin York Room

**BREAK****CONCURRENT SESSION 17  
EXOTIC SPECIES****3:30-5:00 p.m.**Panel Discussion - "Current &  
Future Actions to Address  
the Exotics Problem"Moderator: **John Schwegman**

Panelists

**K. Andrew West****Gary Johnston****Curtis Sharp****Carl Becker****John Drea****BREAK****CONCURRENT SESSION 18  
NATURE PRESERVES DESIGN &  
ESTABLISHMENT****3:30-5:00 p.m.**Panel Discussion - "Local &  
Regional Land Trusts"Moderator: **Kathy Blaha**

Panelists

**Murray Evans****Graham Hawkes****BREAK****CONCURRENT SESSION 19  
MANAGING & PROTECTING  
CAVES & CAVE FAUNAS -  
PROTECTING CAVES & CAVERS**Chairman: **David Foster****3:30-3:50 p.m.**

"State Cave Laws" -

**David Foster****3:50-4:10 p.m.**"Liability and Risk  
Management" - Joel**Stevenson****4:10-4:40 p.m.**"Cave Gates" - **Roy Powers****4:40-5:00 p.m.**"Other Cave  
Protection Techniques" -  
**Les Zimmer****BREAK****CONCURRENT SESSION 20  
CHARACTERISTICS, MANAGEMENT,  
& RESTORATION OF OLD-GROWTH  
DECIDUOUS FORESTS IN THE  
SOUTHEASTERN UNITED STATES**Chairman: **Paul B. Hamel****3:30-4:00 p.m.**"Characteristics of Wildlife  
Communities of Old-Growth  
Southern Hardwood Forests" -  
**Jim Dickson****4:00-4:30 p.m.**"Top Carnivores as Keystone  
Species in Old-Growth  
Deciduous Forests" - **Mike  
Pelton****4:30-5:00 p.m.**"Restoration of Old-Growth  
Conditions to Second-Growth  
Stands at the Land Between  
The Lakes" - **Larry Doyle &  
Beth Wellbaum****5:00-5:30 p.m.**"A Long-Term View of Old-  
Growth Hardwood Forests" -  
**Jim Tanner****BREAK****CONCURRENT SESSION 21  
CONTRIBUTED PAPERS - POLICIES  
FOR NATURAL AREAS PROTECTION II**Chairman: **Abigail Rome****3:30-3:45 p.m.**"The Freshwater Wetlands  
Protection Act: A Regulatory  
Effort at Preserving  
Freshwater Wetland Natural  
Resources" - **Lawrence S. Torok  
& Ernest Hahn****3:45-4:00 p.m.**"The Louisiana Coastal  
Resources Program:  
Regulatory Management of the  
9.5 Million Acre Louisiana  
Coastal Zone" - **John C. Leslie &  
James E. Holcombe****4:00-4:15 p.m.**"Protecting Natural Areas  
Through the Planning Process:  
The Chesapeake Bay Example" -  
**Abigail Rome****4:15-4:30 p.m.**"Natural Areas Protection  
Under 404(C) of The Clean Water  
Act Using Geographic Information  
Systems (ARC/INFO) and the  
Landsat Thematic Mapper" -  
**Gregory M. Hellyer & Marcy  
Berbrick****4:30-4:45 p.m.**"Protection of Vernal Pools  
Under Massachusetts Wetlands  
Protection Act" - **Steven Roble****William Blount South****Henry Knox Room****Andrew Jackson Room****William Blount North****Mississippi Room**

DINNER

CONCURRENT SESSION 22  
UNIVERSITY NATURE PRESERVES  
SYSTEMS - ROUND TABLE  
DISCUSSIONS & COMPARISONS

Moderator: Rick Paradis

8:30-9:30 p.m.

DINNER

CONCURRENT SESSION 23  
CONTRIBUTED PAPERS - CASE  
HISTORIES: EXOTIC SPECIES  
BIOLOGY & CONTROL

Chairman: Victoria Nuzzo

8:30-8:45 p.m.

"Experimental Control of Garlic  
Mustard (*Alliaria officinalis*):  
Use of Fire and Herbicides at  
Different Growth Stages" -  
Victoria Nuzzo

8:45-9:00 p.m.

"The Use of Fire in the  
Containment of the Exotic  
Three, *Melaleuca quinquenervia*,  
in South Florida" - Holly A.  
Tuck & Ronald L. Myers

9:00-9:15 p.m.

"Glossy Buckthorn (*Rhamnus  
frangula*), A Threat to the  
Vegetation of Northern  
Wetlands" - James A.  
Reinartz & Joanne Kline

9:15-9:30 p.m.

"Autumn Olive in Illinois:  
A Conflict in Values" -  
Guy Sternberg

DINNER

CONCURRENT SESSION 24  
NATURAL AREAS SIGNS - WHAT  
WORKS & WHAT DOESN'T -  
ROUND TABLE DISCUSSION

Moderator: Joyce Bender

8:30-9:30 p.m.

Andrew Jackson Room

William Blount Room

Alvin York Room



**WEDNESDAY POSTER SESSION\***  
**POSTER TITLES, PRESENTERS, AND AFFILIATIONS**  
John Sevier Lobby

"An Exotic Plant Survey of the Great Smoky Mountains National Park" - Richard K. Clements, Edward C. Clebsch, B. Eugene Wofford & Keith R. Langdon

"Selection of Native Plants for Reclamation in Southeastern New Mexico" - Joneen Cockman

"Successful Culture of the Rare Annual Hemiparasite Tomanthera auriculata (Michx.) Raf." - Maureen Cunningham & Patricia D. Parr

"Ecology of Three Bottomland Hardwoods Forests in Southern Mississippi" - Margaret S. Devall & Paul F. Ramp

"Urban Natural Areas: A Special Challenge" - Deborah J. Lev

"Status of the Narrow Endemic, Carex oronensis (Cyperaceae)" - Alison C. Dibble

"The Robert Starbird Dorney Ecology Garden" - Katherine Dunster

"The Importance of Cultural Information in the Interpretation of Sandhill Environments in Northeast Florida" - Richard Franz

"Recovery 2000 - A Bold Approach to Recovery" - William F. Harrison, James M. Engel & Ronald L. Refsnider

"In Defense of Wildlife: Preserving Communities and Corridors" - Gay Mackintosh

"Illinois Exotic Species Control Circulars - An Aid to Land Managers and Volunteers" - Don McFall & Mary K. Solecki

"Decline of a Rare Plant Population: Is it Related to Passive Management?" - Patricia D. Parr & Maureen Cunningham

"Restoration of Coastal Dunes at Humboldt County, California" - Andrea Pickart, Linda Miller, Dan Brown, Coleman McCleneghan, & J. O. Sawyer, Jr.

"Identification and Management of Old-Growth Forests on State-Owned Land in Minnesota" - Kurt A. Rusterholz

"Exotic Species Management at the Katherine Ordway Natural History Study Area, Macalester College, St. Paul, Minnesota" - Shelley A. Shreffler

"A Forest Divided" - Betty Ann Tabatabai & Larry J. Smith

"Old-Growth Forest Stands in Maine" - Hank Tyler, Jr.

"An Inventory of Old-Growth Forests on Lands of the National Park Service" - Lucy Tyrrell

"Old-Growth Forest Management for Multiple Use" - Elizabeth M. Wellbaum & Larry Doyle

"Factors Affecting Incidence and Severity of Dogwood Anthracnose in Great Smoky Mountain National Park" - M. Windham, K. Langdon & M. Montgomery

"Control of Paulownia tomentosa and Microstegium vimineum in National Parks" - Frank W. Woods & Elmer L. Ashburn

\* Authors will attend posters from 9:30 p.m. until 10:30 p.m.

**THURSDAY - OCTOBER 19, 1989**

<b>7:00 a.m. - 8:15 a.m.</b>	<b>BREAKFAST - Kentucky Room</b>
<b>8:30 a.m. - 5:00 a.m.</b>	<b>FIELD TRIPS - Buses and vans will depart from in front of hotel</b>
<b>6:00 p.m. - 7:30 p.m.</b>	<b>SOUTHERN BARBECUE DINNER - Backyard Area at Poolside</b>
<b>7:30 p.m. - 9:00 p.m.</b>	<b>NAA AUCTION - Backyard</b>
<b>9:00 p.m. - 11:00 p.m.</b>	<b>CASH BAR SOCIAL WITH LIVE BLUE GRASS MUSIC - Backyard</b>

## THURSDAY'S FIELD TRIPS

As a part of Thursday's activities, seventeen field trips are planned to local natural areas. These trips provide Conference participants an opportunity to see outstanding examples of the natural ecological diversity inherent to the region.

### Oak Ridge Cedar Barrens

Maximum 15 (Must be U.S. citizen)

Floristically rich examples of limestone barrens of the southeast, commonly called cedar barrens. Three sites in the Oak Ridge area, each containing rare and/or disjunct taxa, will be visited. Leaders will address issues related to preservation and management of relatively small natural areas. Very little walking required. Driving time one way 45 minutes. Return mid-afternoon. Trip leader: Maureen Cunningham.

### Doe River Gorge

Maximum 46

The Doe River meanders through a botanically and geologically interesting, rugged gorge, parallel to the now abandoned Tweetsie Railroad. Both ends of the gorge are marked by rough-hewn tunnels which are entrances to the gorge. An easy 2-mile hike along the railroad bed gives a fine view of four geologic formations of lower cambrian age, a spectacular view of the river, and the following interesting plants: Climbing fumatory (Adlumia fungosa), Fraser's sedge (Cymophyllus fraseri), Heart-leaf (Hexastylis virginica), Siverling (Paronychia argyrocoma), Canada burnet (Sanguisorbas canadensis), Tufted club-rush (Scirpus caespitosus), Carolina hemlock (Tsuga caroliniana). Driving time one way 2 hours. Trip leader: Ed Schell.

### Frozen Head State Natural Area

Maximum 46

Frozen Head State Natural Area lies in the coal-bearing Cumberland Mountains of east Tennessee. Frozen Head affords some of the only views of the Cumberlands unaffected by surface mining. Mixed mesophytic forests, stream gorges, and cascades provide habitat for diverse wildlife and plant communities. Rare plants and animals are found here, and the high mountains with mature forest are home to breeding birds typical of areas further north. Land use conflicts over possible coal surface mining adjacent to Frozen Head have triggered a Lands Unsuitable for Mining Petition now under review. Travel time one way 60 minutes. Trip leaders: Betsy Bunting, Duane Wyrick, Roy Jensen.

### Ijams Audubon Nature Center (pronounced "iams")

Ijams is a city park and community nature center. In its 20 plus acres, foot trails wind across streams, meadows, fern banks, and past bluffs overlooking Fort Loudoun Reservoir. Excellent habitat for birding. Located 5 miles from Hyatt Regency. Transportation on your own.

### Clinch and Powell Rivers

Maximum 30 (wading gear desirable)

This trip will introduce participants to the beauty, diversity, and environmental problems associated with free-flowing rivers in the southern Appalachian Mountains. The Clinch River is known worldwide for its diverse fish and mussel fauna. The group will visit sites on the adjacent Powell River impacted by coal mining sedimentation. No collecting permitted. Travel time one way 2 hours. Trip leader: John Jenkinson.

### Big South Fork National River and Recreation Area

Maximum 46

This is a recently established area of scenic gorges cutting through the relatively flat Cumberland Plateau. It offers white-water boating, hiking, horseback riding, hunting, biking, as well as rare plants and animals. Trip will visit river access site, overlooks, natural bridges, rock houses, historic homesteads. Moderately strenuous short hikes. Travel time one way 2 hours. Trip leader: Chuck Nicholson and Jack Collier.

### Norris Dam Cave

Maximum 15 (helmet and light provided)

Norris Dam Cave is habitat for a bachelor colony of federally endangered gray bats, Myotis grisescens. To protect the bats from human disturbance, TVA gated and fenced this cave in 1980. Beautiful formation room in back of short passage. No crawls, but chance to go underground and get muddy. Picnic lunch by beautiful Clinch River. Travel time 45 minutes one way. Return mid-afternoon. Trip leader: Richard Wallace.

### River Bluff Natural Area

Maximum 30

This 125-acre TVA natural area contains a 3.5 mile trail leading through several community types, including mature mesic slope hardwoods, successional pine forests, and xeric sites dominated by upland oaks and pine. Trail parallels the beautiful Clinch River below limestone bluffs that give the area its name, and climbs to the top of the bluffs for wonderful views of fall colors. Rare plants include Bugbane, Cimicifuga rubifolia, Meehan's mint, Meehania cordata. Trail is moderately strenuous. Travel time 45 minutes one way. Return mid-afternoon. Trip leader: Judith Bartlow.

## GREAT SMOKY MOUNTAINS NATIONAL PARK TRIPS

### Cades Cove

Maximum 30

Largest "cultural zone" in the national park; maintained as a landscape that simulates the 1850-1920 period of that section of the park. Embedded in this popular area are rare natural communities such as caves, marshes, sinkhole ponds, limestone outcrops with rare plants. Issues examined include authenticity of historic landscape, presettlement vegetation, impacts of white-tailed deer on rare plants. Several short (less than 1/2 mile) walks off Cades Cove loop road. No collecting. Travel time 70 minutes. Trip Leader: Janet Rock.

### Laurel Falls

Maximum 17

Virgin forest stand of several hundred acres. Round trip trail mileage of 4 to 5 miles, depending on length traveled (not a loop). Stand is old-growth tulip tree-hemlock-magnolia at lower elevation, and becomes oak, maple, sourwood further up the trail. Also 1988 wildfire site. Moderately strenuous in some sections. No collecting. Trip leader: Terry O'Halloran.

### Clingman's Dome - Andrews Bald

Maximum 46 (need rain gear and boots)

Profound changes are occurring at higher elevations in the southern Appalachians. Five-mile round trip to Andrews Bald. Issues: Demise of Fraser fir due to balsam woolly adelgid, red spruce decline, grassy bald restoration. Trail in some sections is rocky and strenuous, elevations up to 6,300'. This hike will "move along." Participants should be reasonably fit. See plants endemic to Southern Appalachians and park. No collecting. Travel time one way 100 min. Trip leader: Paul Durr.

### Aquatic Invertebrates

Maximum 17 (need rubber boots)

Join a National Park Service aquatic biologist for an examination of aquatic invertebrates in the national park. First choice is a high-elevation, high-gradient stream which entails a round trip, 3-mile hike that is moderately strenuous. If inclement weather or recent rains prevail, it will be relocated to a lower elevation stream. Issues: Invertebrates in logged vs. old growth watersheds, problems in diversity, acidic precipitation, survey of springs, techniques. No personal collecting. Travel time one way 70-90 minutes. Trip leader: Chuck Parker.

### Alum Cave Bluff

Maximum 17

Moderately strenuous, 5-mile round trip hike. Diverse southern Appalachian vegetation types including old-growth hemlock/birch, spruce, heath balds. Rare mosses and vascular plants, spectacular geology. No collecting. Travel time one way 80 minutes. Trip leader: David K. Smith.

### Porter Flats

Maximum 30

One of the best examples of uncut, cove-hardwood forest left in the southern Appalachians. Travel time is 70 minutes. This 6-mile round trip hike is not steep, but participants will have to "keep moving." Trip leader: Ed Clebsch.

**FRIDAY - OCTOBER 20, 1989**

**7:00 a.m. - 8:30 a.m.                      BREAKFAST - Kentucky Room**

**8:30 a.m. - 10:30 a.m.                      CONCURRENT SESSIONS**

- 25.     Nature Preserve Design and Establishment - Protection of Riverine  
         Ecosystems as Natural Areas - William Blount South
- 26.     Panel Discussion - Global Warming, Implications for Natural Areas  
         Management - Carolina Room
- 27.     Contributed Papers - Rare Species Biology - Mississippi Room

**10:30 a.m. - 11:00 a.m.                      BREAK - John Sevier Lobby**

**11:00 a.m. - 12:00 p.m.                      CLOSING REMARKS - Mississippi Room**

**12:00 p.m.                                        ADJOURN**

## FRIDAY CONCURRENT SESSIONS

### CONCURRENT SESSION 25 NATURE PRESERVE DESIGN & ESTABLISHMENT - PROTECTION OF RIVERINE ECOSYSTEMS AS NATURAL AREAS: A PANEL DISCUSSION

Moderator: Lance Peacock

8:30 -10:30 a.m.

Merrill Lynch  
Bill Possiell  
Brian Anderson  
John Jenkins

### CONCURRENT SESSION 26 GLOBAL WARMING: IMPLICATIONS - FOR NATURAL AREAS MANAGERS - A PANEL DISCUSSION

Chairman: Glenn P. Juday

8:30-9:00 a.m.

"The Central Role of the High Latitudes  
in Global Change: Some Thoughts from  
Alaska" - Glenn P. Juday

9:00-9:30 a.m.

"Implications of Global Warming for  
Preserve Design and Stewardship:  
Some Thinking at the Nature  
Conservancy" - Orie Loucks

9:30-10:00 a.m.

"Response of Forest Tree Species to  
Global Warming Scenarios" -  
Katherine Zabinski

10:00-10:30 a.m.

"Climate Change, Disturbance Regimes,  
and Biodiversity" - Reed Noss and  
Rob Peters

### CONCURRENT SESSION 27 CONTRIBUTED PAPER SESSION - RARE SPECIES BIOLOGY

Chairman: Marcella DeMauro

8:30-8:45 a.m.

"The Universal Transverse  
Mercator System: A Method  
for Increased Precision in  
Recording the Locations of  
Rare Species and Communities"-  
Ellen A. Cypher & Brian L. Cypher

8:45-9:00 a.m.

"Status and Distribution of  
Endangered and Threatened Plants  
at the Indiana Dunes National  
Lakeshore in Relation to Natural  
and Anthropogenic Disturbances  
Processes" - Marlin L. Bowles,  
Marcella M. DeMauro, Noel Pavlovic &  
Ronald Hiebert

9:00-9:15 a.m.

"Experimental Demography of Fame  
Flower (Talinum rugospermum), A  
Midwestern Endemic Succulent Plant" -  
Noel B. Pavlovic

9:15-9:30 a.m.

"The Ecology of Two Northern Disjunct  
Populations of Celtis tenuifolia Nutt.  
and Implications for their Protection  
and Management" - Katherine Dunster

9:30-9:45 a.m.

"Population Biology of Silene regia,  
A Prairie Plant in a Fragmented  
Landscape" - Eric S. Menges

9:45-10:00 a.m.

"Genetic Population Structure of  
Aster furcatus (Asteraceae), A  
Threatened Plant of Wisconsin" -  
Donald H. Les & James A. Reinartz

(continued, next column)

10:00-10:15 a.m.

"Management Recommendations for  
Lesquerella filiformis at Wilson's  
Creek National Battlefield, Missouri" -  
Lisa Potter Thomas

10:15-10:30 a.m.

"Bryophyte Diversity of Great Smoky  
Mountains National Park" -  
David K. Smith,  
Kenneth D. McFarland, &  
Paul G. Davison

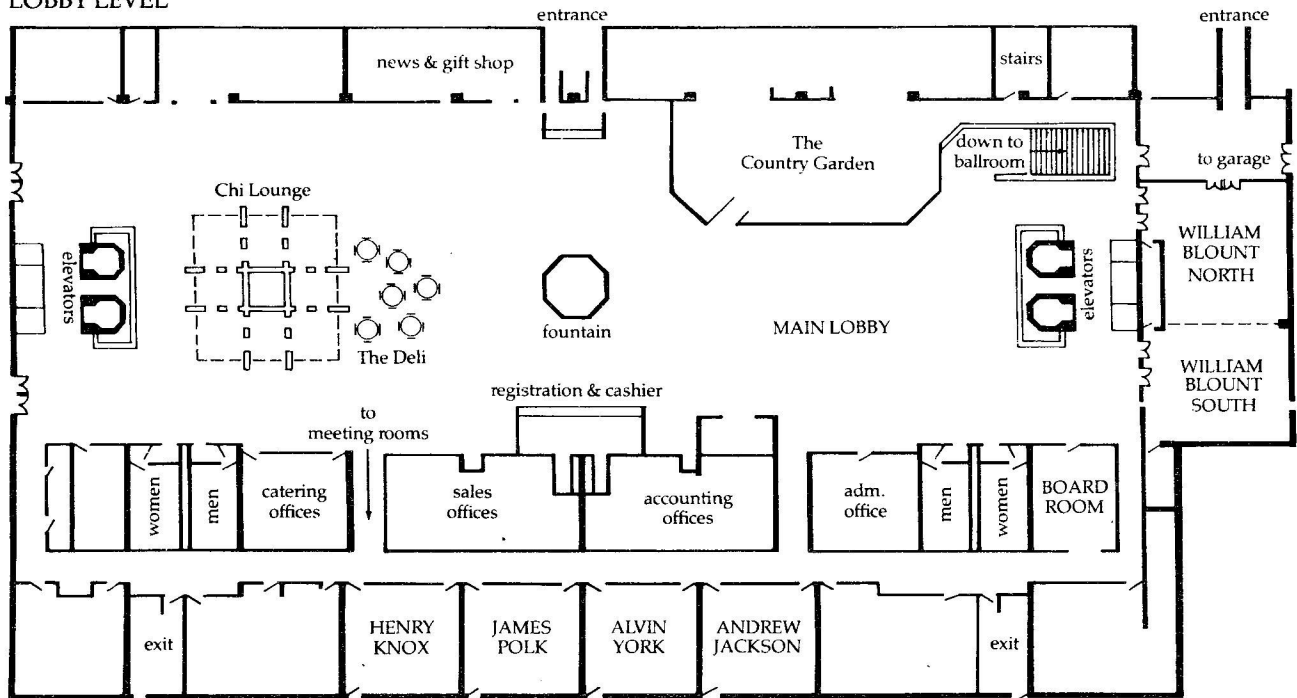
William Blount South

Carolina Room

Mississippi Room

# HYATT REGENCY KNOXVILLE

## LOBBY LEVEL



## BALLROOM LEVEL

