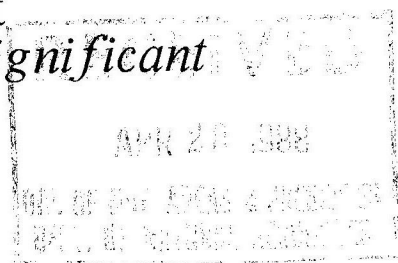


# FIFTEENTH ANNUAL NATURAL AREAS CONFERENCE

## Ecosystem Management *Rare Species and Significant Habitats*

June 6 - 9, 1988  
Syracuse, New York



### ADVANCE REGISTRATION FLYER

This advance registration flyer is being sent to those who responded to the first Conference announcement. A formal registration flyer will follow soon. You may register on the attached registration or use the formal flyer.

**IMPORTANT:** If you wish to participate in pre-Conference field trips June 4 - 5 register now using this flyer's form.

### PRE-CONFERENCE FIELD TRIP REGISTRATION DEADLINE:

April 30, 1988.

### SPONSORS

The Natural Areas Association  
New York State Museum  
The Nature Conservancy, New York Field Office  
The New York Natural Heritage Program  
New York State Department of Environmental Conservation  
Division of Fish and Wildlife  
Division of Lands and Forests  
New York State Office of Parks, Recreation, and Historic Preservation  
Community College of the Finger Lakes  
State University of New York-College of Environmental Science and Forestry  
(SUNY ESF)  
Faculty of Environmental and Forest Biology  
Office of Continuing Education

### CONTRIBUTORS

New York State Museum  
Friends of Burnet Park Zoo, Inc.  
Center for Plant Conservation

### THE CONFERENCE

The Natural Areas Conference has evolved to become the national meeting for professional managers, biologists, ecologists, administrators, and volunteers involved with finding, describing, protecting, and managing natural communities, significant habitat, and endangered and threatened species on public and private lands. Last year's Conference at Peoria, Illinois, attracted more than 500 participants.

### PROCEEDINGS

A major grant by the New York State Museum will make possible this year the first published proceedings of a Natural Areas Conference. More than 100 presented papers will be published in what promises to be a landmark reference in the field. The Proceedings will be available from the New York State Museum when published.

### THE CONFERENCE THEME

#### Ecosystem Management Rare Species and Significant Habitats

Conference activities focus on promoting the sensitive management of rare species and significant habitats by providing forums at which botanists, zoologists, ecologists, and natural resource managers can share their research findings, experiences, and viewpoints.

### GENERAL INFORMATION

The State University of New York-College of Environmental Science and Forestry is the host institution for the 15th Natural Areas Conference. Syracuse, New York, home of the SUNY ESF, offers ready access to many natural areas and recreational opportunities in the Finger Lakes, Lake Ontario, Thousand Island, and Adirondack Mountain regions.

Marshall Hall, on the SUNY ESF campus, will be the center of conference activities.

## ACCOMMODATIONS

**UNIVERSITY HOUSING:** A university housing and meal package is available to all conference participants through Syracuse University, which is adjacent to SUNY ESF. Housing will be provided in Dellplain Hall, a short walk from Marshall Hall, the Conference center.

The meal package starts with dinner on Sunday, June 5, and ends with a box lunch on Thursday, June 9. Meals will be provided in Kimmel Dining Hall. Lodging before or after the conference is available on a room-only basis in university housing for those arriving early in Syracuse or leaving late. Meals may also be purchased individually.

Rates: (includes four nights lodging and meals from dinner, Sunday, June 5 through lunch Thursday, June 9)

\$176(US) per person single occupancy

\$158(US) per person double occupancy

\$23(US) per person per extra night (room only)

Although the dormitory's main desk is staffed 24 hours a day, participants are asked to check in at Dellplain Hall before 9:00 p.m. if possible.

**HOTELS:** Participants who prefer may make reservations at local hotels on their own. A block of rooms has been reserved at the Hotels at Syracuse Square. Rates are:

Hotel Syracuse: (315) 422-5121

\$52 single/\$62 double per room. (10-minute drive)

Hotel Syracuse-Hilton Tower: (315) 422-5121

\$66 single/\$76 double per room. (10-minute drive)

The rooms will be held only until May 23, 1988. Make your reservations before then to ensure your accommodations. If you choose hotel accommodations, a variety of restaurants is within a 10-minute walk of the campus.

**CAMPING:** Campsites are available at Green Lakes State Park, about 10 miles from SUNY ESF, at \$8 to \$10 per night (1988 rates have not been confirmed as yet). Reservations should be made via *Ticketron*, at any office nationwide, or through the *Teletron* phone system (1-800-922-2030), using Mastercard, VISA, or American Express. A processing fee is charged for all *Ticketron* reservations.

## REGISTRATION

All speakers and participants are requested to preregister using the registration form. The \$40(US) registration fee includes Thursday field trips and a set of abstracts of papers presented at the conference. Proceedings are not included in the registration fee. Meals, receptions, refreshments, and lodging are included in the room and board package.

For those not taking the university room and board package, a day conference fee of \$28(US) must also be paid to cover refreshments, the Monday evening barbecue, receptions, and field trip box lunch.

Checks in U.S. funds should be made payable to **SUNY RESEARCH FOUNDATION**.

Participants may register for the conference in the Dellplain lobby between 2:00 and 9:00 p.m. on Sunday, June 5. Late arrivals may pick up registration packets at Marshall Hall from 7:30 a.m. until 4:30 p.m. on Monday, Tuesday, or Wednesday.

## NATURAL AREAS ASSOCIATION (NAA)

The Natural Areas Association is a non-profit professional organization for individuals involved in the identification, evaluation, management, and protection of natural areas. Membership includes resource professionals, scientists, naturalists, and interested individuals from the national, state, local, and private sectors. NAA provides support and informational services to those concerned with the protection and long-term stewardship of natural areas. NAA publishes the *Natural Areas Journal*, sponsors the annual Natural Areas

Conference, provides the opportunity to express collective views to national Congressional leaders, legislative assemblies, and agency officials, and promotes public understanding and appreciation of natural areas. NAA is a publicly supported, tax-exempt, charitable organization. Non-members will be able to join at the Conference.

## CONFERENCE EVENTS AND PRESENTATIONS

### PLENARY PRESENTATIONS

#### *The Need for Communication Across Disciplines--*

An Address, A Respondent Panel, and an All-Conference Synthesis

**CONCURRENT SESSIONS--** Formal presentations of papers and informal round table discussions and workshops will be scheduled concurrently from Monday afternoon through Wednesday afternoon.

**WORKSHOPS--** Evening workshops will emphasize finding, identifying, collecting, and preserving plants and animals. Specialists will lead each workshop. An additional workshop will focus on environmental interpretation.

**BARBECUE AND RECEPTION--** Monday evening all conference participants are invited to a barbecue and visit at Onondaga County's recently redesigned Burnet Park Zoo. The *Friends of Burnet Park Zoo* have provided a generous grant to partially underwrite the evening.

**POSTER SESSIONS / MIXERS--** Tuesday and Wednesday evening poster sessions will provide opportunities for informal discussion of research results. Authors will be present to talk about their research from 7:30 to 9:00 p.m. Refreshments will be served.

**EXHIBITS--** Exhibitors, both commercial and non-profit, are invited to highlight their services and programs during the conference. Exhibit areas will be located in Marshall Hall and in adjacent areas if demand requires. For more information, call Horace Shaw at (315) 470-6888.

**FIELD TRIPS--** Pre-conference field trips are planned for Saturday and Sunday, June 4 - 5. Up to 15 conference field trips will be conducted on Thursday, June 9. Participants will visit significant New York and Northeastern natural areas to see examples of ecosystem management to protect rare species and significant habitat in the field.

**Local Field Trips--** In addition to the full-day field trips on Thursday, you may wish to organize your own local field trip on Monday, Tuesday, or Wednesday. Information on local areas of interest will be available at the conference center if you wish to vary your day during the conference.

## TENTATIVE PROGRAM

(Sessions with the same number are tentatively scheduled for the same time.)

### MONDAY, JUNE 6

9:00 a.m. - 12 Noon

**PLENARY SESSIONS: THE NEED FOR COMMUNICATION ACROSS DISCIPLINES**

Address and Respondent Panel.

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

1A. AGENCIES AND NATURAL AREAS

The Role of Local Government in the Ecosystem Management of Rare Species and Significant Habitats. Cramer, T. W. & M. C. Wade.  
Natural Areas Information Use by the Adirondack Park Agency.  
Spada, D.  
The Role of the St. Lawrence-Eastern Ontario Commission. Cutter, T.  
Significant Coastal Habitat Protection and Management in New York State. Hart, T. F., A. S. Milliken, B. S. Swift, and J. Ozard.  
Massachusetts's Wetlands Protection Act: A New Tool for Protecting Rare Wildlife Habitat. Melvin, S. M.

#### 1B. ON-SITE MANAGEMENT ISSUES Round Table

Phil Zito, Ohio DNR; Guy Denny, Ohio DNR; Greg Seamon, Butler Meyer Sanctuary, TNC; National Park Service representative (invited).

#### 1C. AVIAN BIOLOGY I

Preserving the Last Pair of Bald Eagles in New Jersey on Bear Swamp Natural Area. Niles, L. & S. Paturzo.  
The Raptor and Raven Resources of the Los Medanos Area in Southeastern New Mexico: a Unique and Significant Habitat. Bednarz, J. C., T. Hayden, T. Fischer, & J. Juen.  
The Creation and Management of Artificial Foraging Habitat for Wood Storks. Coulter, M. C.  
Factors Influencing the Future of Whooping Crane Habitat on the Platte River in Nebraska. Faanes, C. A.  
Ecological Status of Threatened Spruce Grouse Populations in New York. Bouta, R. P. & R. E. Chambers.

#### 1D. THE PROPOSED LAKE CHAMPLAIN / ADIRONDACK LAKE FOREST BIOSPHERE RESERVE--A Workshop

William Gregg or Roger Sole, Man and the Biosphere Reserve Program, International Union for Conservation of Nature and Natural Resources; Jim Dawson, Plattsburgh State University; Monty Fisher, Vermont Natural Resources Council.

#### 1E. ETHICS OF PRESERVATION

Panelists to be announced.

3:30 - 5:00 p.m. *CONCURRENT SESSIONS*

#### 2A. CONSERVATION OF ENDANGERED BRYOPHYTES

Why Rare and Endangered Bryophytes? Andrus, R. E.  
Endangered Bryophytes: Determination, Protection and Management. Karlin, E. F.  
Rare Species of Pennsylvania Mosses: An Assessment. Webster, H. J. & C. Manville-Greenland.  
Preparing an Endangered Species List of Bryophytes: Endangered and Threatened Bryophytes of Ohio. Snider, J. A.  
Flora Protection: The Question of Rare Mosses. Ketchledge, E. & S. Clemants.

#### 2B. REMOTE SENSING Workshop *Limited to 50 people.*

Donald Bogucki, SUNY Plattsburgh.

#### 2C. CANADIAN NATURAL AREAS -- Panel with Paper

Tim Lash; Stewart Hiltz, Natural Heritage League; Tom Beechey, Ministry of Natural Resources; Ross Thomassen, Canadian Council of Ecological Areas; additional TBA.  
Enhancing Private Land Stewardship. Van Patter, M., H. Geerts, and S. Hiltz.

#### 2D. GROWING ENDANGERED SPECIES FOR CONSERVATION: A PROPAGATOR'S VIEW. Round Table

Donald Falk, Center for Plant Conservation; Susan Wallace, Bok Tower Gardens; Julie Kierstead, Berry Botanic Garden; Bryan Parsons, The Holden Arboretum; Juliet Alsop, The New York Botanic Garden; additional panelist TBA.

#### 2E. AVIAN BIOLOGY II

Demography and Habitat Management for Spotted Owls. Boyce, M. S.  
Ecology and Conservation of Short-eared Owl on Nantucket Island, Massachusetts. Tate, G. R., S. M. Melvin and D. W. Holt.  
Evaluation of Black Rats as a Potential Puerto Rican Parrot Nest Predator. Zwank, P. J. & B. W. Layton.  
Population Responses of the Puerto Rican Nightjar to Forest Clear Cutting. Vilella, F. J. & P. J. Zwank.  
The Giant Grebes of Guatemala. LaBastille, A.  
Assessing Cumulative Impacts to Wintering Bald Eagles and Their Habitats in Western Washington. Witmer, G. W. and T. A. O'Neil.

6:00 p.m. *BARBECUE -- Burnet Park Zoo*

#### TUESDAY, JUNE 7

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

#### 3A. INVENTORY METHODS

Computerized Ranking for Prioritizing Natural Areas. Duever, L.C. & R. F. Noss.  
A Modern, Computer-accessed Flora of Pennsylvania--an Essential Tool for Resource Managers. Rhoads, A. F.  
Use of a County Soil Survey to Locate Remnants of Native Grassland in the Willamette Valley, Oregon. Alverson, E. R.  
Techniques Used for the Inventory of Rare Ecological Communities in New York State. Reschke, C.  
Progress of Rare Plant Assessment, Monitoring and Recovery in Alberta, Canada. Allen, L.

#### 3B. FOREST MANAGEMENT

Stand Dynamics and Restorative Management Implications in an Old-growth Urban Forest Ecosystem. Guldin, J. M., J. R. Smith & L. Thompson  
Fifty Years of Forest Wildlife Management -- Aldo Leopold's 1935 Visit to Germany in Retrospect. Aney, W. W.  
Reconsidering Oak Woodland: A Forgotten Fire Community. Packard,

S.

Management Strategies for Increasing Habitat and Species Diversity in an Urban National Park. Cook, R.P. & Tanacredi, J. T.  
Decline of White Pine in the Great Lakes; Response to Air Pollution, Lumbering, and/or Natural Succession. Hiebert, R. D. & E. Kjellmark.  
Quantifying the Degree of Disturbance in Forest Ecosystems. Zeide, B.

#### 3C. PRESERVE DESIGN Workshop

Kate Hubbs, New York Nature Conservancy Field Office; Mike Vernuti, Caleb Smith State Park; others TBA.

#### 3D. LANDOWNER CONTACT / LANDOWNER RELATIONS Round Table (2 sessions)

Stewart Hiltz, University of Guelph; Lydia Meyer, Illinois Nature Preserves Commission; Hank Tyler, Maine Critical Areas Program; Chuck Roe, N. C. Natural Heritage Program; Phil Hoose.



- 3E. **PRESERVE FUNDRAISING** Round Table  
Mike Laspia, Mashomack Preserve, TNC; Jill Riddell, TNC; Seward Weber, Mohonk Preserve.

10:30 - 12 Noon **CONCURRENT SESSIONS**

- 4A. **COUNTY SURVEYS** Round Table  
Scott Peterson; Don Kurz, Missouri Dept. of Conservation; Sue Crispin, Michigan Natural Features Inventory; Carmen Converse or Keith Wendt, Minnesota Natural Heritage Program

4B. **STEWARDSHIP**

Conservation and the Use of Prescribed Burning in the Management of a Fire-prone Vegetation. Parker, V. T.  
Ecological Management of Coastal Heathlands and Grasslands in Massachusetts. Dunwiddie, P. W. & C. Caljouw.  
Inventory, Acquisition, and Management of the Man-modified Landscape of the "Punkhorn". Hellyer, G. M.  
Design and Implementation of Prairie Landscape Reserves in Minnesota: The Rothsay Prairie Case Study. Wendt, K. M. & R. P. Dana.  
Conservation of Sand Pine Scrub: an Endangered Ecosystem in Florida. Stout, I. J.

- 4C. **CONSERVATION STRATEGIES FOR ENDANGERED SPECIES.**  
Introduction to Integrated Conservation Strategies. Falk, D.  
The Red Wolf: Extinction, Captive Propagation and Reintroduction. Moore, D.  
Reintroduction of *Pediocactus knowltonii*. Olwell, P.  
Additional participants to be announced.

- 4D. **FOREST PLAN IMPLEMENTATION: RESEARCH NATURAL AREAS** Round Table  
DeVon Nelson, U. S. Forest Service, Milwaukee; Hilary Dustin or Fred Putnam, Finger Lakes National Forest; Mike Spanel, Shawnee National Forest; Diane Walker, Huron-Manistee National Forest

**LANDOWNER CONTACT** Session 3D. *continues*

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

5A. **NATURAL AREAS LAWS**

An Overview of Natural Areas Laws. McMahan, L. R.  
How Public Interest Groups Affect Public Policy. Campbell, F.  
The Role of the Endangered Species Act in Habitat Protection. Nickerson, P.  
Ohio's Approach to Plant, Animal, and Natural Areas Protection. McCance, B.  
Additional speaker to be announced.

5B. **NORTHEASTERN COMMUNITIES**

The Management of Rare Plants: Suggestions Derived from Paleocological Studies of Late Pleistocene Floras. Miller, N. G.  
Preservation of Rare Biota in Alpine Refugia of the High Peak Region, Adirondack Mountains, NY. Ketchledge, E. H.  
Fens of the Byron-Bergen Swamp: Disturbance Maintained Communities. Seischab, F. K.  
Some Effects of Beaver Flooding on Rare Swamp Birch (*Betula pumila*) Vegetation in Connecticut: 1984 to 1987. Rawinski, T. J. & B. Lapin.  
The Distribution of Bobcat and Black Bear Populations in the Catskills, New York State: Implications in Defining Ecosystem

Boundaries. Brocke, R. H., L. B. Fox, and J. P. O'Pezio.

5C. **ECOLOGICAL MANAGEMENT**

Setting Objectives: A Prerequisite of Ecological Management. Schroeder, R. L. and C. E. Keller  
Ecological Planning and Resource Management: A Necessary Partnership for Small Lake Restoration. Gilman, B.  
Chevron's Endangered Species Program: an Example of the Corporate Role in Endangered Species Conservation. O'Brien, P. Y.  
Assessments for Endangered, Threatened, and Rare Species—A View from the Private Sector. McMullen, J. M.  
Wildlife and Related Values of Park Golf Course Ecosystems. Andrew, N. J.

- 5D. **PROTECTING RIVERINE ECOSYSTEMS WORKSHOP** (two sessions)  
Derek Richardson, Maryland Rivers Program; Susie Wilkins, American Rivers; additional participants TBA.

- 5E. **HERBICIDES, PESTICIDES, AND BIOLOGICAL CONTROL: ANIMALS**  
Mike Birmingham, N.Y.S. D.E.C.; others TBA.

3:30 - 5:00 p.m. **CONCURRENT SESSIONS**

6A. **SAMPLING AND QUANTITATIVE ANALYSIS**

Determinants of Avian Species Richness: The Minimum Critical Patch Model. Keller, J.  
An Approach for Quantifying Habitat Characteristics of Rare Wetland Bird Breeding Areas. Hanowski, J. M. & G. J. Niemi.  
Response to Conspecific Roadside Playback Recordings: An Index of Red-shouldered Hawk Breeding Density. Johnson, G. & R. E. Chambers.  
A Modified Point-centered Quarter Sampling Scheme Provides Reliable Data for Plant Community Classification and Evaluation. Kooser, J. G. & W. T. Rankin.  
Using Discriminant Analysis to Assess Impacts and Plan Mitigation for the Pawnee Montane Skipper. Galatowitsch, S.

6B. **ENVIRONMENTAL LAWS** Workshops

6B-1. How to Pass an Endangered Species Law  
Julie Kierstead, Berry Botanic Garden; Frankie Brackley, N.H. Natural Heritage Inventory; Bob Cartica, N.J. Office of Natural Lands Management  
6B-2. Conserving Plants and Animals Working within a State Legal Framework  
Scott Melvin, Massachusetts Natural Heritage and Endangered Species Program; Harold Grimitt, Arkansas Natural Heritage Commission; Jim Davis, N.Y.S.D.E.C.

6C. **HERBICIDES, PESTICIDES, and BIOLOGICAL CONTROL: PLANTS**

John Schwegman, Illinois Department of Conservation; Ed Woltmann, N.Y.S. D.E.C.; Research Scientist, Monsanto (invited); others TBA.

6D. **PUBLIC INVOLVEMENT IN PROTECTION**

Management of Urban Park Lands Dialogue, Recommendations and Results. Matthews, M. J., L. Remus, & A. Benepe.  
Achieving Participation by Private and Local Public Cooperators in Rare Species Management Programs. Sternberg, G.  
Horn Pond Mountain Floristic Survey -- The Novice Botanist and a Critical Area. Brown, P. M.  
Using the Community College Continuing Education System to Educate the Public about Environmental Issues. Kent, R. J.



Landowner Contact and Interagency Cooperation. Burnett, G. W.

7:30 - 9:00 p.m. **MIXER -EXHIBIT AREAS**

7:30 - 9:00 p.m. **POSTER SESSION**

8:00 - 9:30 p.m. **CONCURRENT WORKSHOPS**

**7A. MOLLUSC WORKSHOP**

Dave Strayer, Institute of Ecosystem Studies, Cary Arboretum

**7B. MOTH and BUTTERFLY WORKSHOP**

Tony Wilkinson, PA Natural Diversity Inventory; Charles Bier, Western PA Conservancy; Dale Schweitzer, TNC

**7C. MOSS and LIVERWORT WORKSHOP**

Dick Andrus, SUNY Binghamton

**7D. ORCHID WORKSHOP**

Chuck Sheviak, NYS Museum

**7E. INTERPRETERS WORKSHOP**

Phil Zito, Ohio Division of Nature Preserves; Robert Budliger, NYS Department of Environmental Conservation; National Park Service representative (invited).

**WEDNESDAY, JUNE 8**

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

**8A. GROUP DYNAMICS: RESULTS-ORIENTED LEADERSHIP** (two-session workshop)

Jim Ashton, Cornell Cooperative Extension

**8B. STEWARDSHIP AND MONITORING**

An Overview of The Nature Conservancy's Stewardship Program in the Southeast. Rose, W. M.

Statistical Analysis of Rare Plant Monitoring and Demographic Data.

Pavlovic, N., M. Bowles, and M. DeMauro.

Monitoring Endangered Plants for Management Purposes.

Schwegman, J.

A Statistical Analysis of Rare Plant Species of Wetland and Aquatic Habitats in the United States. Fiedler, P. L.

Land Management Strategy for Preserving Raptor Migration on Cape May Peninsula. Niles, L. and K. Clark.

**8C. BIOLOGY AND RECOVERY OF ENDANGERED PLANTS--I**

Recovery of the Endangered Virginia Round-leaf Birch (*Betula uber* (Ashe) Fernald): A Decade of Progress. Sharik, T. L., P. P. Feret, and R. W. Dyer.

The Biology and Management of *Potentilla robbinsiana*, an Endangered Alpine Plant. Fitzgerald, B. T., K. D. Kimball, C. V. Cogbill and T. D. Lee.

Investigations of the Breeding System of the Endangered Lakeside Daisy (*Hymenoxys acaulis* var. *glabra*): Implications for Conservation and Management. DeMauro, M. M.

Analysis of Population Viability for an Endangered Plant.

Menges, E. S.

Is Population Biology Relevant to the Recovery of Endangered Plants?

Cook, R. and P. Dixon.

**8D. HABITAT RESTORATION**

Ecological Monitoring at the Waste Isolation Pilot Plant, Southeastern New Mexico. Cockman, J. S.

Mitigation Efforts and Management Policies to Protect a Rich Raptor Resource in Southeastern New Mexico. Fischer, T., J. Juen, J. C.

Bednarz, and T. Hayden.

Mine Reclamation: Opportunity for Critical Habitat Development.

Brenner, F. J.

Fact or Fantasy: From Landfill to National Park (A Summary Investigation Regarding Natural Resources of Jamaica Bay and Their Relationship to an Abandoned Hazardous Waste Landfill Site).

Tanacredi, J. T.

The Role of Succession in Habitat Management and Restoration of Agriculturally Altered Lands in Florida. Hart, R., L. C. Duever, J.

R. Newman and R. Christianson.

**8E. STRATEGIC PLANNING APPLIED TO THE NATURAL AREAS MOVEMENT** (two-session workshop)

Sarah Greene, Vice President, Natural Areas Association

10:30 - 12 Noon **CONCURRENT SESSIONS**

**9A. PUBLIC AGENCY INVOLVEMENT**

Researchers, Agency Attitudes, and Wilderness. Harrington, L. M. B.

The Determination of Federal Reserved Water Rights and its Relation to Rare Species and Significant Habitats: A Case Study. Williams, O. R.,

A. E. Johns and Stanley L. Ponce.

The Importance of Class I Area Air Quality Designation in Natural Area Protection. Foley, M. K.

Maximizing the Effectiveness of Natural Areas Information in

Influencing Public Policy: The Maine Experience. Griffen, R. A. and H. R. Tyler, Jr.

A Review of the National Marine Fisheries Service, Endangered Species Program: Management Related Research. Thompson, N. B.

**9B. BIOLOGY AND RECOVERY OF ENDANGERED PLANTS--III**

The Status of Seabeach Amaranth (*Amaranthus pumilus* Raf.): A Case Study of Rarity in a Naturally Dynamic and Man-altered Habitat.

Bucher, M. A. and A. S. Weakley.

The Significance and Management of Relict Populations of *Chamaelirium luteum*. Utter, J. M. and A. W. Hurst.

Biological Considerations in the Management of Temperate Terrestrial Orchid Habitats. Sheviak, C. J.

Responses of Two *Plantago cordata* Lam. Populations to Stochastic Events and Watershed Land Use Affecting Adjacent Habitats in

Tazewell County, Illinois. Bowles, M. L. and S. I. Apfelbaum.

The Dwarf Trout Lily: Mapping, Monitoring, Management.

Smith, W.

Monitoring *Gentiana saponaria* L. (Gentianaceae), an Endangered Species in Ohio. Windus, J. L.

**9C. CONSERVATION BELOW THE SPECIES LEVEL--Round table**

Elaine Joyal, The Nature Conservancy; Stan Temple, U. of Wisconsin; Jim Hamrick, U. of Georgia; Christine Schoenwald-Cox, U. of California-Davis; Richard Mitchell, NYS Museum.

**GROUP DYNAMICS: RESULTS-ORIENTED LEADERSHIP**  
(Session 8A.) *continues*

**STRATEGIC PLANNING** (Session 8E.) *continues*

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

**10A. SPECIES BIOLOGY: REPTILES**

- Western New York Bog Turtles: Relics of Ephemeral Islands or Simply Elusive? Collins, D. E.  
A Survey of the New York Populations of the Short-headed Garter Snake, *Thamnophis brachystoma* (Cope)(Reptilia: Colubridae). Bothner, R. C.  
Ecology and Management of a Timber Rattlesnake Population in New York State: Results of a Four-Year Field Investigation. Peterson, A.  
Observations on Habitat Use and Seasonal Movements of the Bog Turtle (*Clemmys muhlenbergii*) in a New York Wetland. Eckler, J. T., A. R. Breisch, and J. L. Behler.  
Criteria for Site Selection for the Introduction of the St. Croix Ground Lizard. Meier, A. J. and R. E. Noble.

**10B. COMPUTER APPLICATIONS IN NATURAL AREAS**

- Integration of Automated Geographic Mapping Capabilities with Natural Heritage Program Data Base Records. Reuter, D. D.  
The Macroscopic: A High-tech Toolkit for Information Management at Natural Areas. Hamilton, M. P.  
Attaching the New Jersey Natural Heritage Database to a Geographic Information System. Breden, T. F., J. E. Saks, and J. Schooley.  
Botanic Garden Databases in Conservation. Walters, Kerry.  
Lab-top Computers as a Field Tool. Wiegman, P.

**10C. BIOLOGY AND RECOVERY OF ENDANGERED PLANTS--III**

- Species Biology of *Lindera melissifolia*, Pondberry, a Federally Listed Species, in Northeast Arkansas. Wright, R. D.  
Species Management for the Closed-lip Penstemon. Hanson, L.  
Studies of *Lespedeza leptostachya* at Red Rock Preserve, Cottonwood County, Minnesota. Sather, N. P.  
Population Biology and Management of Northern Monkshood (*Aconitum noveboracense*). Dixon, P. and R. Cook.  
Northern Monks-hood in New York: Practical Problems in Resources Management. Gerty, F. J. and N. L. Sears.

**10D. OLD GROWTH MANAGEMENT CHALLENGES**

- Sarah Greene, U.S. Forest Service Forest Sciences Lab, Corvallis; Ronald F. Billing, Texas Forest Service; additional TBA.

**10E. GROUP DYNAMICS AND RESULTS-ORIENTED LEADERSHIP.  
(One-session abbreviated version of 8A.)**

- Jim Ashton, Cornell Cooperative Extension

3:30 - 5:00 p.m. **All Conference Session:**

**COMMUNICATION ACROSS DISCIPLINES--A SYNTHESIS**

7:30 - 9:00 p.m. **MIXER -- EXHIBIT AREAS**

7:30 - 9:00 p.m. **POSTER SESSION**

8:00 - 9:30 p.m. **CONCURRENT WORKSHOPS**

**11A. DRAGONFLY WORKSHOP**

- Ralph Charlton, Geneva Experiment Station

**11B. SEDGE WORKSHOP**

- Gordon Tucker, NYS Museum

**11C. FERN WORKSHOP**

- Joe Beitel, NY Botanical Garden

**11D. FISH WORKSHOP**

- Bob Daniels, NYS Museum

**THURSDAY, JUNE 9**

9:00 a.m. - 5:00 p.m. **CONFERENCE FIELD TRIPS**

**SCIENTIFIC FIELD TRIPS**

- FT1. Unique Biological Communities of the Adirondack Mountains.** A two-day on-the-way trip, June 4-5. Saturday: management techniques for the alpine ecosystem, including a strenuous 6-mile hike up 4,000'+ Algonquin Peak. Sunday: introduction to Boreal Heritage Program and visit to Spring Pond Bog, a raised patterned peatland. Fee: \$39. Lodging and meals additional: bed and breakfast at Adirondack Loj, \$18.50 per person per night. Transportation on your own. Limited to 10 people. Leaders: Edwin H. Ketchledge, Eric Karlin, Brian Fitzgerald, Tim Barnett, Rob Bouta.
- FT2. Forest Decline - Natural Processes versus Anthropogenic Causes.** Two-day trip, June 4-5. Leaves Syracuse by bus Saturday to examine beech decline in the northern hardwoods forest. Sunday: spruce decline in the alpine forest of Whiteface Mountain and visit to Atmospheric Sciences Research Center. Fee: \$75; lodging at the Inn at Whiteface Saturday night with Sunday breakfast and box lunch, \$33; other meals additional. Limited to 18. Leaders: Michael Birmingham, Dudley J. Raynal.
- FT3. Wetland Ecosystems of Western New York - Rare/Problem Species and their Management.** Two-day trip, June 4-5. Leaves Syracuse Saturday to see rarities of Byron-Bergen Swamp, small white ladyslippers, Massasauga rattlesnakes and more. Sunday: Bald Eagle hacking program at Oak Orchard and Purple Loosestrife control at Iroquois National Wildlife Refuge. Limited to 11. Transportation by van from Syracuse. Fee: \$35 plus meals and lodging. Lodging available at \$20 single/\$18 double at SUNY Brockport. Leaders: Franz Seischab, Dan Carroll.
- FT4. Unusual Forest Communities and Endangered Species Management in the Catskill Mountains and Vicinity.** A two-day on-the-way trip, June 4-5. Visits to stunted pitch pine forest, ice caves, wetland wildlife management area; attention to Eastern Woodrat, timber rattlesnake, bat hibernacula, and northern monkshood. Meet at first site; Albany airport pick-up possible. Fee: \$22. Motel lodging (about \$48/double room) and meals additional; transportation on your own. Limited to 24. Leaders: Al Hicks, Joel Hermes.
- FT5. Forest Management and Old Growth Communities in the Finger Lakes Region.** Two-day field trip, June 4-5. Leaves Syracuse Saturday to see multiple-use Finger Lakes National Forest, old growth hemlock ravine forest, old growth Appalachian forest stand. Optional side trip to small Finger Lakes winery. Limited to 20. Fee: \$67; motel lodging (about \$44 per double room) and meals additional. Leaders: Hilary Dustin, Mildred Faust, Bruce Gilman.
- FT6. Management Considerations in the St. Lawrence/Eastern Lake Ontario Region.** Two-day field trip, June 4-5. Impacts on species and biological processes following an oil spill along the St. Lawrence Seaway; politics of management along an international border; rare species along the north shore of Lake Ontario with visits to pannes, dunes, and marshes of Presque Isle Provincial Park, a mixed swamp forest and open fen complex at Stoco Fen, and Camden East Alvar, an Ontario Area of Natural and Scientific Interest with diverse and extensive alvar representation. Leaves from Syracuse. Fee: \$86. No cost for rustic indoor lodging at Presqu'ile Provincial Park and Saturday barbecue; breakfast and lunches additional. Optional motel accommodations

available outside park. Leaders: Dan Palm, Tom Beechey, Don Cuddy, Steve LaForest.

**FT7. Rare Species and Significant Habitats in the Urban Metropolis of New York.** Two-day trip, June 4-5. Habitat restoration at the Jamaica Bay Refuge, Gateway National Recreation Area; visits to Pelham Park and New York Botanical Garden in the Bronx. An on-the-way trip, meeting at Jamaica Bay Saturday morning. Fee: \$15. Transportation, meals, and lodging on-your-own. Limited to 30. Leaders: Bob Cook, Mike Matthews.

**FT8. Ecosystem Management along the Lower Hudson River.** On-the-way two-day trip, June 4-5. Management considerations for a freshwater tidal marsh; management for rare Bog and Blanding's Turtles. Meet at first site. Limited to 20. Lodging (approximately \$40 single/\$58 double) and meals on your own. Fee: \$15. Leaders: Alvin Breisch, Jim Eckler, Bryan Swift.

**FT9. Old Growth Forests and Rare Species Management in Southwestern New York.** On-the-way one- or two-day trip, June 4-5. Visit to Heart's Content, Allegheny National Forest and Allenberg Bog; Sunday visit to sites for hellbender, and short-headed garter snake. Meet at first site. Fee: \$25 includes lodging (bring sleeping bag); meals additional. Leaders: Terry Moore, Edith Schrot, Steve Eaton, Richard Bothner.

**FT10. Natural Features of Southern Ontario, Canada.** On-the-way two-day field trip, June 4-5. Day one starts at tall-grass Ojibway Prairie, at Windsor, and continues to see the birdlife, wetlands, and sand habitats of Point Pelee National Park and Long Point World Biosphere Reserve. Sunday visits to Backus Woods, a "Carolinian forest" with eastern deciduous forest species at their northern limits, and the 725 kilometre long, 400 million year old limestone Niagara Escarpment. Examples of private stewardship and other approaches to natural area protection will be seen. Meet at Ojibway Prairie. Limited to 15. Fee: \$15 US. Lodging, meals, and transportation on your own; motel \$50 CAN or camping \$30 CAN. Leaders: Jo-Anne Rzedki and Stewart Hilts.

**FT11. Jennings Environmental Education Center, Butler, PA.** On-the-way trip, Saturday, June 4. Visit this 350 acre nature preserve with the only relict prairie protected in Pennsylvania, home to Massasauga rattlesnake and blazing star. Limited to 50. No charge. Leader: David Johnson.

**FT12. New Jersey Pine Barrens.** On-the-way two-day field trip, June 4-5. Visit the Afton Burn area, a burned pitch pine lowland, and the Pine Plains, a stunted pitch pine upland forest, on Saturday, with possible sampling for rare moths that night. Sunday morning visit Webb's Mills, a successional Atlantic white cedar swamp. Pick-up and return to Atlantic City airport possible. Lodging in cabins at Bass River State Forest Saturday night. Limited to 20. Fee: \$20/person includes lodging, Saturday lunch, Sunday breakfast. Sleeping bag necessary; Saturday dinner not included. Leaders: Tom Breden and Dale Schweitzer.

**FT13. University of Vermont Natural Areas System, Burlington, Vermont.** On-the-way two-day field trip, June 4-5. Visit wetland/peatland complexes, kettlehole bog, alpine tundra along Vermont's highest mountain, and mature northern hardwood and softwood forests. \$68 includes two nights lodging, breakfast and lunch on both days, and transportation around Burlington. Transportation to Syracuse on June 5, \$24 extra. Limited to 12. Leader: Rick Paradis.

**FT14. Ecosystem Management and Rare Species of Long Island.** On-the-way two-day trip, June 4-5. Visit pitch pine barrens, dwarf pine plains, glacial moraine with kettle holes, coastal plain pond shore, tiger salamander and osprey nesting sites, tern and piping plover nesting sites, migrating shore bird locations, and a coastal salt marsh with dune and cranberry bog communities. Meet at first site. Fee: \$15. Lodging potential at Long Island University (\$45 single/\$35 double). Meals and transportation on your own. Limited to 20. Leaders: Mike Scheibel, Steve Sanford, Bob Zaremba.

**Station, and Oneida Lake.** An historical location for bog turtle, present location of massasauga (pygmy) rattlesnake, and a study site for an investigation of the effect of fire on vegetation in northern peatland; Bridgeport fisheries research station; boat visit to tern nesting sites. Leaders: Cheryl LeBlanc, Ed Mills, John Forney, John Proud, Mike Richmond.

**FT16. Eldorado Beach, Selkirk Shores, and Derby Hill.** Dune management, high sand dune communities, rare dune plant species, and shorebirds at Eldorado Beach and Selkirk Shores. Raptor census and data management at Derby Hill, site of the Northeast's most spectacular springtime concentrations of migrating hawks. Leaders: Gerald Smith, Lee Chamberlaine.

**FT17. Beaver Lake Nature Center and Whiskey Hollow.** Diverse habitats at Beaver Lake, an environmental education facility emphasizing the natural world and environmental science, include lake, forests, field, ponds, swamps and a bog. Whiskey Hollow's interesting geological features are home to a diverse mixture of species more typical further south, together with many northern species. Leaders: Lee Rentz, Greg Smith, Heidi Kortright, Mildred Faust.

**FT18. Clark Reservation and White Lake Swamp.** Many species of fern, including hart's-tongue fern, among unusual geologic features; rare plants, including recent reports of the small whorled pogonia; land use conflicts; wetland and upland plant communities. Leaders: Diane Cinquemani, Ken Dean.

**FT19. Chittenango Falls and Green Lake State Park.** Hart's tongue fern and the endangered ovate amber snail; meromictic lakes, one of which is a National Natural Landmark; a climax forest; interesting geologic features; and examples of land use conflicts. Leader: Glen Johnson and Alvin Breisch.

**FT20. Rome Sand Plains.** A natural area featuring pitch pine barrens and postglacial dunes. Leader: Joe Homburger.

**FT21. Montezuma National Wildlife Refuge and Carncross Salt Marsh.** Eagle hacking, wetland management, and control of exotic species (especially purple loosestrife) at Montezuma. Rare plants at an inland salt pond and surrounding saline marsh at Carncross Salt Marsh. Leaders: Mike Allen, others TBA.

**FT22. Lime Hollow.** Kettle/kame ecology, heath bog, vernal pond, marl ponds, and rare species. Leaders: John Gustafson, Bob Wesley.

**FT23. Cornell Plantations and Sapsucker Woods.** The famous teaching and demonstration arboretum and the home of Cornell's avian research center, the Laboratory of Ornithology. Additional \$2.00 fee. Leaders: Raylene Gardner, Scott Sutcliffe (invited).

**FT24. Limerick Cedars and Lyme Prairie.** A calcareous pavement barrens with many rare plant and animal species, and an alvar grasslands (disjunct prairie) featuring rare plants. Leaders: Bruce Gilman, Carol Reschke.

**FT25. Zurich Bog.** A trip to view bog management, a quaking bog, and an old-growth forest. Leader: Lee Drake.

**FT26. Junius Ponds, Bentley's Woods, and Geneva Experiment Station.** Natural areas featuring kettle and esker geology, bog ecology, mature swamp, upland forests, and multiple use conflicts. Tentative visit to Geneva would hear about dragonfly research. Leaders: Don Barton, others TBA.

**FT27. Frenchman's Bluff.** A natural area featuring the timber rattlesnake and the impact of defoliation by gypsy moths. Leaders: Art Smith and Allen Peterson.

**FT28. Labrador Hollow and Tinker Falls.** A New York State Unique Natural Area with many rare and protected plants, a glacial lake, coniferous swamp forest, and a 50-foot waterfall. Leader: Don Leopold.

**FT29. Jam Pond and Spruce Swamp.** Rare species at a quaking bog surrounded by coniferous swamp forest and a mixed conifer swamp. Leaders: Chad Covey, Peter Smallidge.

**QUESTIONS?** For program information call Donald Leopold at (315) 470-6784. For information on arrangements, call Horace Shaw at (315) 470-6891.

#### CONFERENCE FIELD TRIPS, Thursday, June 9

**FT15. Cicero Swamp Wildlife Management Area, Bridgeport Field**



## SESSION SCHEDULE

15th Natural Areas Conference  
Ecosystem Management - Rare Species and Significant Habitat

Sunday, June 5

12:30 PM	Natural Areas Association Board Meeting	321 Bray
7:30 PM	Natural Areas Association Annual Meeting	Marshall Auditorium
8 PM	Mixer - Sponsored by NAA	Marshall Lounge

Monday, June 6

8:30 AM	Moderators Meeting	212 Marshall
9:00	Opening General Sessions	Marshall Auditorium
1:30 PM	Concurrent Sessions	
	1A. Agencies and Natural Areas	Marshall Auditorium
	1B. On-Site Management	5 Illick
	1C. Avian Biology I	Heroy Auditorium, SU
	1D. ADK/Champlain Lake Forest Biosphere	321 Bray
	1E. Postponed to 1989 in Tennessee	
3:30 PM	Concurrent Sessions	
	2A. Conservation Endangered Bryophytes	5 Illick
	2B. Remote Sensing Workshop	319 Marshall, ESF
	2C. Canadian Natural Areas	105 Physics Bldg., SU
	2D. Growing Endangered Species	Marshall Auditorium
	2E. Avian Biology II	317 Marshall

Tuesday, June 7

8:30 AM	Concurrent Sessions	
	3A. Inventory Methods	Marshall Auditorium
	3B. Forest Management	Heroy Auditorium, SU
	3C. Preserve Design	319 Marshall
	3D. Beyond Registries	317 Marshall
	3E. Preserve Fundraising	321 Bray
10:30 AM	Concurrent Sessions	
	4A. County Surveys	212 Marshall
	4B. Stewardship	Marshall Auditorium
	4C. Conservation Strategies for End. Spp.	5 Illick
	(4D. Moved to 10E.)	
	3D. Beyond Registries continues	317 Marshall
1:30 PM	Concurrent Sessions	
	5A. Natural Areas Laws	Heroy Auditorium, SU
	5B. Northeastern Communities	Marshall Auditorium
	5C. Ecological Management	5 Illick
	5D. Protecting Riverine Ecosystems	212 Marshall
	5E. Herbicides, Pesticides, Biol. Control	321 Bray

Concurrent Sessions

6A. Sampling & Quantitative Analysis	Marshall Auditorium
6B. Environmental Laws	319 Marshall
6C. Herbicides, Pesticides, Biol Cont: Plts	5 Illick
6D. Public Involvement in Protection	Heroy Auditorium, SU
7:30 PM Mixer	Marshall 103 & Lounge
Poster Session and Exhibits	Marshall 103
6-7:30 PM Concurrent Workshops	
7A. Mollusc Workshop	212 Marshall
7C. Moss & Liverwort Workshop	117 Illick
7D. Orchid Workshop	317 Marshall
7:45-9:15 PM Concurrent Workshops	
7B. Moth & Butterfly Workshop	5 Illick
7D. Orchid Workshop	317 Marshall
7E. Interpreters' Workshop	319 Marshall
7F. Group Dynamics/Results-Oriented Leadshp.	321 Bray

*MCCAW*

Wednesday, June 8

8:30 AM Concurrent Sessions

8A. Croup-Dynam./Results-Oriented Leadership	321 Bray
8B. Stewardship and Monitoring	Marshall Auditorium
8C. Biology & Recovery Endangered Plants I	5 Illick - <i>Carole de Chazay #3</i>
8D. Habitat Restoration	Heroy Auditorium, SU
8E. Strategic Planning & Natural Areas Mvt.	319 Marshall

*8*

10:30 AM Concurrent Sessions

9A. Public Agency Involvement	5 Illick
9B. Biology & Recovery Endangered Plants II	Marshall Auditorium
9C. Conservation Below Species Level	Heroy Auditorium, SU
8A. Continues	321 Bray
8E. Continues <i>Leont</i>	319 Marshall

*9*

1:30 PM Concurrent Sessions

10A. Species Biology: Reptiles	5 Illick
10B. Computer Applications in Natural Areas	Marshall Auditorium
10C. Biology & Recov. of Endang. Plants III	Heroy Auditorium, SU
10D. Old Growth Management Challenges	211 Hall of Languages, SU
10E. Forest Plan Implementation	319 Marshall

*10*

3:30 PM General Session Marshall Auditorium

7:30 PM Mixer Marshall 103 & Lounge  
Poster Session & Exhibits 103 Marshall

6-7:30 PM Concurrent Workshops

11A. Dragonfly Workshop	117 Illick
11B. Sedge Workshop	5 Illick
11C. Fern Workshop	314 Illick
11D. Fish Workshop	251 Illick

7:45-9:15 PM Concurrent Workshops

11A. Dragonfly Workshop	117 Illick
11B. Sedge Workshop	5 Illick
11C. Fern Workshop	314 Illick
11D. Fish Workshop	251 Illick