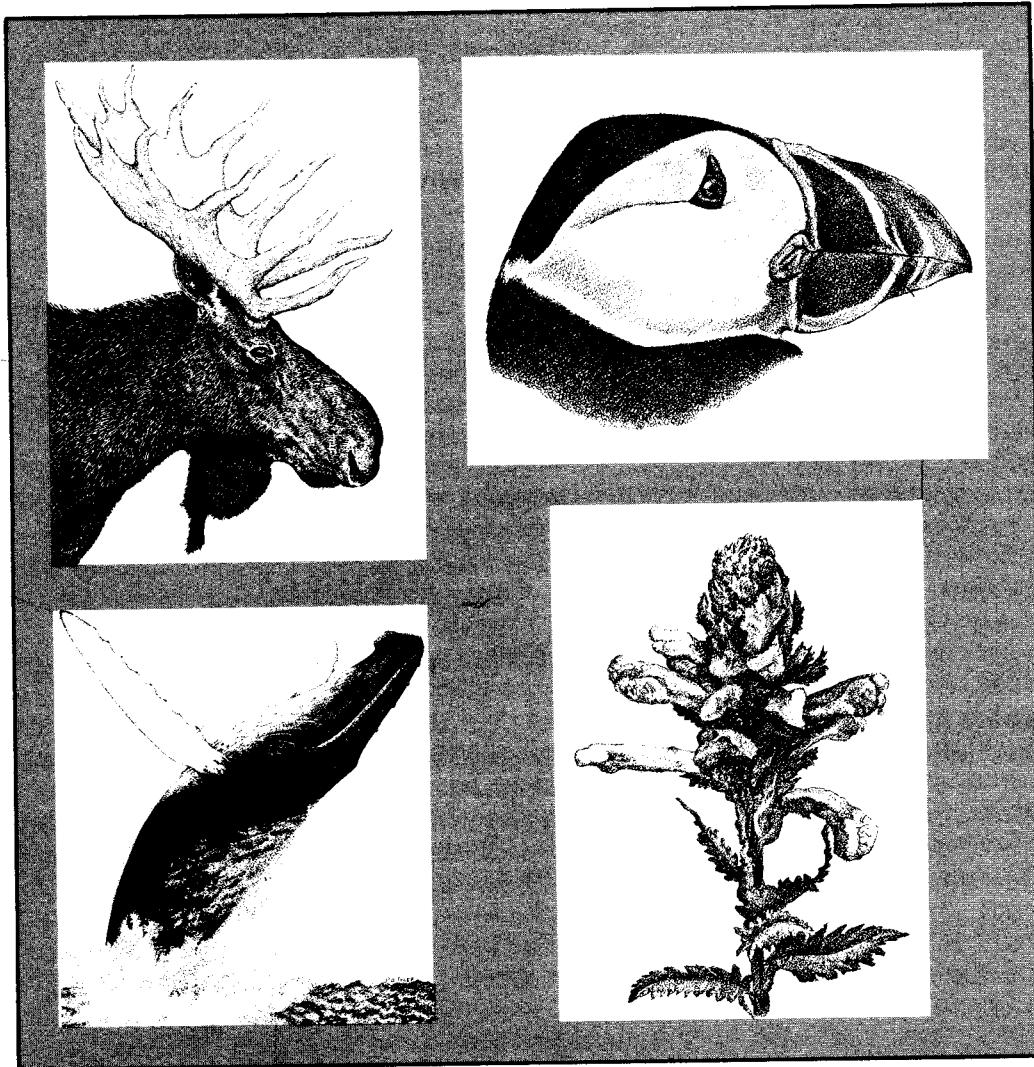


# Conservation in Working Landscapes

## 20th Annual Natural Areas Conference



Convened by:  
Natural Areas Association  
Maine State Planning Office  
at the

University of Maine  
Orono, Maine  
June 22-26, 1993

**Conference Program**

Alan Clark  
Maine Fish & Wildlife  
Service

### Conference Underwriters

Bureau of Land Management  
Canadian Wildlife Service  
Green Mountain National Forest  
National Park Service, North Atlantic Region  
NOAA/Office of Ocean & Coastal Resource Management  
National Marine Fisheries Service  
U.S. Environmental Protection Agency, Region 1  
U.S. Fish & Wildlife Service, Region 5 and 8  
U.S. Forest Service, White Mountain National Forest and New England Forest Experiment Station

### Conference Sponsors

Appalachian Mountain Club, Maine Chapter	Maine Critical Areas Program
Atlantic Center for the Environment	Maine Department of Conservation
American Forestry Foundation	Maine Department of Inland Fisheries & Wildlife
Audubon Society of New Hampshire	Maine Olmsted Alliance
Balsam Environmental Consultants, Inc.	Massachusetts Audubon Society
Bangor Hydro-Electric Company	Ministry of the Environment, Province of Quebec
Bath Iron Works	Monsanto
Baxter State Park	National Audubon Society
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California Department of Fish and Game	New England Wild Flower Society
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Chewonki Foundation	Old Town Canoe
Coastal States Organization	Powers and Hall
College of Forest Resources, University of Maine	Quoddy Regional Land Trust
Countryside Institute	Rocky Mountain Elk Foundation
Eagle Hill Wildlife Research Station	S.D. Warren
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Friends of Maine's Natural Areas	Saint Croix International Waterway Commission
Georgia Pacific	Society for Protection of New Hampshire Forests
Great Northern Paper Company	The Nature Conservancy, Connecticut Chapter
Gulf of Maine Council on the Marine Environment	The Nature Conservancy, Maine Chapter
International Paper	The Nature Conservancy, New Hampshire Chapter
Island Institute	The Nature Conservancy, Vermont Chapter
Island Nature Trust, Prince Edward Island	Trustees of Reservations, Massachusetts
James River Timber Corporation	University of Maine, Plant Biology & Pathology
L.L. Bean	University of Maine, Wildlife Department
Lyme Timber Company, New Hampshire	University of New Hampshire, Environmental Conservation
Maine Audubon Society	University of Vermont, Environmental Program
Maine Coast Heritage Trust	Wagner Woodlands, New Hampshire
Maine Coastal Program	Wells National Estuarine Research Reserve

### Special Acknowledgements

Old Town Canoe	Wild Wings	Johnson Wax & Co.
Dr. Malcolm Hunter	Champion International	Robert Bateman
Mill Pond Press	Partners of the Americas	Friends of Acadia
The Greenwich Workshops, Inc.	Delorme Mapping Co.	Rocky Mountain Elk Foundation
Environmental Partnership for Central Europe: A project of the German Marshall Fund		

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**20th ANNUAL NATURAL AREAS CONFERENCE**  
**15th Annual Meeting of the Natural Areas Association**  
**June 22-26, 1993**  
**Memorial Union, University of Maine, Orono**

**Summary of Conference Week**

**Four pre-conference workshops \* 143 papers \* Round Table lunches**  
**Four evening socials \* Poster sessions \* 15 Field workshops**

**Tuesday, June 22**

9:00 a.m. Registration  
1:15 p.m. Welcome  
1:30 p.m. Opening Session - Land Conservation in Working Landscapes  
4:30 p.m. Panel Discussion: Goals for the Conference and Beyond  
6:00 p.m. Supper  
7:30 p.m. Slide Show - Natural Areas in Maine  
Social • Poster Session

**Wednesday, June 23**

7:00-8:00 a.m. Breakfast  
8:00 a.m. Concurrent Symposia Sessions 1-5: Invited Papers and Contributed Papers  
12:00 p.m. Lunch and Speaker  
1:40 p.m. Concurrent Symposia Sessions 6-11: Contributed Papers  
6:15 p.m. Supper  
7:30 p.m. NAA Annual Meeting  
Fell Award Presentation  
Silent Auction • Special Coastal Social • Poster Session • Old Town Canoe Raffle

**Thursday, June 24**

7:00-7:30 a.m. Breakfast  
7:30 a.m. Field Trips  
6:30 p.m. Lobster Bake-Banquet  
7:30 p.m. Social • Entertainment  
Silent Auction • Old Town Canoe Raffle (conclusion)

**Friday, June 25**

7:00-8:00 a.m. Breakfast  
8:00 a.m. Concurrent Symposia Sessions 12-16: Invited Papers and Contributed Papers  
12:00 p.m. Lunch and Speaker  
1:40 p.m. Concurrent Symposia Sessions 17-21: Contributed Papers  
6:00 p.m. Dinner • Closing Social

**Saturday, June 26**

7:00-8:00 a.m. Breakfast

***Natural Areas Association Mission Statement***

*The mission of the Natural Areas Association is to advance the preservation of natural diversity.  
The association works to inform, unite and support persons engaged in identifying,  
protecting, managing, and studying natural areas and biological diversity.*

**Tuesday, June 22**

**Registration**

**9:00 a.m. - 5:00 p.m.**

Registration will take place in Memorial Union, University of Maine

**Welcome**

**Hauck Auditorium • 1:15 p.m.**

Francis Harty, President, Natural Areas Association

Dr. Ray Owen, Chair, Wildlife Department, College of Forest Resources, University of Maine

**Opening Session**

**1:30 p.m.**

*Land Conservation in Working Landscapes*

James R. Bernard, Maine State Planning Office, Moderator

James J. Espy, Maine Coast Heritage Trust

Kent Wommack, The Nature Conservancy

Marcia McKeague, Great Northern Paper

**Break**

**3:00-3:30 p.m.**

**Opening Session Continued**

**Hauck Auditorium • 3:30 p.m.**

*Land Conservation in Working Landscapes*

Dr. George Finney, Canadian Wildlife Service

Marie Rust, National Park Service

Denise Meredith, Bureau of Land Management

**Panel Discussion**

**4:30 p.m.**

*Goals for the Conference and Beyond*

**Adjourn**

**5:00 p.m.**

**Dinner**

**Wells Common • 6:00-7:00 p.m.**

**Slide Show - Natural Areas in Maine**

**Hauck Auditorium • 7:30 p.m.**

**Social Event • Poster Session**

**Wells Common Lounge**



**Wednesday, June 23**

**Breakfast**

**7:00-8:00 a.m.**

**FOUR CONCURRENT SYMPOSIA SESSIONS AND  
ONE SKILL BUILDING WORKSHOP**

**8:00 a.m.-12:00 p.m.**

***Invited Papers***

*1) Inventorying and Monitoring Natural Areas in Working Landscapes.*

***Little 110***

*Moderator: John Albright, Maine Natural Heritage Program.*

8:00 a.m. Opening/Introductory remarks by Moderator

8:15 **Landscape Analysis: Cataloging Biodiversity for Conservation on Large Land Areas.** John Albright, Maine Natural Heritage Program.

8:40 **Using GIS to Map Potential *Isotria medeoloides* (Pursh) Raf. Habitat in New Hampshire and Maine.** Molly B. Spurduto, University of New Hampshire.

9:05 **Habitat Shifts in Island-Nesting Seabirds: A Preliminary Report.** John G. T. Anderson, College of the Atlantic.

9:30 **Environmental Monitoring and Assessment Program: Overview.** Jim Colby, Bureau of Land Management.

- 9:55 Break
- 10:15 **Monitoring Rare Species: The Demise of the 1M<sup>2</sup> Plot.** Dan Salzer, Oregon Nature Conservancy.
- 10:40 **GAP Analysis: A Spatial Approach to Identifying Representative Areas for Maintaining Biodiversity.** J. Michael Scott, Idaho Cooperative Wildlife Research Unit.
- 11:05 **An Ecological Evaluation of Proposed New Conservation Areas in Idaho Using GAP Analysis.** R. Gerald Wright, National Park Service Cooperative Studies Unit, Department of Fish and Wildlife, University of Idaho.
- 11:30 **Designing an Ecological Reserves System Using a Landscape Approach.** Janet McMahon, The Nature Conservancy, Maine Chapter.

## 2) *Biological Diversity in Working Landscapes: Topical Perspectives.*

*Little 120*

*Moderators: James R. Bernard, Maine State Planning Office, and Dr. Mary Foley, National Park Service.*

- 8:00 a.m. Opening/Introductory remarks by Moderators
- 8:15 **Biological Diversity in Managed Forests.** Dr. Malcolm L. Hunter, University of Maine.
- 8:45 **Sustainable Forestry or Sustainable Forests?** Dr. Reed F. Noss, Oregon State University; University of Idaho; The Wildlands Project.
- 9:15 **Changes in Gulf of Maine Coastal Foodwebs Due to Decline in Predatory Finfish.** Dr. Robert Stenick, University of Maine Darling Center.
- 9:45 **Tourism and Stewardship: A Newfoundland and Labrador Case Study.** Tom Horn, Atlantic Center for the Environment.
- 10:15 Break
- 10:40 **Land Use Correlates of Farmland Bird Distributions.** Dr. Raymond O'Connor, University of Maine.
- 11:10 **Natural Communities Conservation Planning: Southern California's Ecosystem Approach to Endangered Species Conservation.** Susan A. Cochrane, California Department of Fish and Game.

## 3) *Conservation in Marine Ecosystems.*

*Little 130*

*Moderators: Gary Davis, Channel Isl. National Park, and Dr. John Pearce, National Marine Fisheries Service.*

- 8:00 a.m. Opening/Introductory remarks by Moderators
- 8:15 **A Case Study of Management in a Large National Park: Glacier Bay and its Resources.** Dr. James Taggart, National Park Service.
- 8:40 **Protected Areas and Marine Resource Management.** Gary Davis, National Park Service.
- 9:05 **Preservation and Management of Marine and Coastal Fisheries in the National Park System.** Dr. Frank Panek, National Park Service.
- 9:30 **Management-oriented Research and Monitoring Programs in National Estuarine Research Reserves and Marine Sanctuaries.** Dr. Michael Crosby, National Oceanic and Atmospheric Administration.
- 9:55 Break
- 10:15 **Biodiversity of Marine Macrobenthos in the Northern Gulf of Maine.** Dr. Peter Larsen, Bigelow Laboratory.
- 10:40 **New York Bight: A Case Study of Marine Habitat Quality and Management.** Dr. Jack Pearce, National Marine Fisheries Service.
- 11:05 **Use of Remote Sensing in Protecting Coastal and Estuarine Habitats.** Dr. James Thomas, National Marine Fisheries Service.

## *Contributed Papers*

### 4) *Wildlife Conservation in Working Landscapes.*

*Little 140*

*Moderator: Dr. Allan O'Connell, National Park Service.*

- 8:00 a.m. Opening/Introductory remarks by Moderator
- 8:15 **Monitoring Amphibians on Mt. Mansfield, Vermont.** Steve Trombulak and Jim Andrews, Middlebury College.
- 8:40 **Restigouche River System: Recreation Management.** J. Melvyn Fitton, Natural Resources & Energy, New Brunswick.
- 9:05 **Managing Wetlands for Nongame Waterbirds.** Douglas L. Helmers, Wetlands for the Americas.
- 9:30 **The Use of an Individual-Based Model to Examine Landscape Permeability.** Randall B. Boone and Dr. Malcolm L. Hunter, University of Maine, Orono.
- 9:55 Break
- 10:15 **An Ecological Approach to Integrating Wildlife Habitats in Urban Design.** Meera Krishnaswami, Neil P. Korostoff, and Robert P. Brooks, Pennsylvania State University.
- 10:40 **The Western Hemisphere Shorebird Reserve Network: International Cooperation in Natural Area Protection.** Dr. George Finney, Canadian Wildlife Service.
- 11:05 **The Efficacy of Education: Reversing Population Declines in Seabirds.** Dr. Kathleen A. Blanchard, Atlantic Center for the Environment.
- 11:30 **Ravens in Maine.** Bernd Heinrich, University of Vermont.

## *Skill Building Workshop*

### 5) *Communications and Landowner Contact.*

*Boardman 210*

*Moderator: Mina Marsh, Arkansas Natural Heritage Commission.*

- Robert W. Hintze, International Paper
- Mina Marsh, Arkansas Natural Heritage Commission
- Hank Tyler, Maine State Planning Office

## **Lunch and Speaker - Dr. George M. Woodwell**

**12:00-1:30 p.m.**

Dr. George M. Woodwell, founder and director of the Woods Hole Research Center in Massachusetts and author of over 200 major papers and books in ecology, will give a talk entitled "A Warming Earth: Will Nature Survive?" Dr. Woodwell will address the problems associated with global warming, and in particular, biotic impoverishment.

## **FIVE CONCURRENT SYMPOSIA SESSIONS AND ONE SKILL BUILDING WORKSHOP**

**1:40-5:30 p.m.**

### ***Contributed Papers***

#### ***6) Inventorying and Monitoring Natural Areas in Working Landscapes.***

***Little 110***

***Moderator: John Albright, Maine Natural Heritage Program.***

- 1:40 p.m. **Identifying and Protecting Wetlands in Vermont Through Satellite Imagery, GIS, and Governmental Initiatives.** G. Hellyer, B. Dingee, C. Manwaring, and M. Watzin, USEPA and University of Vermont.
- 2:05 **Landscape Analysis and Inventory of the Nahmakanta Management Unit.** John P. Lortie and Joshua L. Royte, Woodlot Alternatives; Sally C. Rooney and Janet S. McMahon.
- 2:30 **Monitoring Ecotones to Detect Forest and Landscape Changes.** Thomas Stohlgren and Richard Bachand, National Park Service.
- 2:55 **Hemlock Woolly Adelgid in Shenandoah National Park: Long-Term Monitoring Strategies and Management of Eastern Hemlock Ecosystems.** J. Keith Watson and Jacob L. Bowman, Shenandoah National Park, Virginia.
- 3:20 Break
- 3:50 **Development of a Northern Forests Resource Inventory for Balanced Land-Use Allocation.** Michael L. Cline and Sally Stockwell, Maine Audubon Society.
- 4:15 **Representation of Major Acadian Forest Types in Highly Protected Areas.** Eric Hundert, Environment Canada; Judy Loo-Dinkins, Forestry Canada.
- 4:40 **Laying the Foundation for Botanical Area Stewardship: A Case Study in Inventory Methodology on the Six Rivers National Forest, Northwest, California.** Lisa D. Hoover, U.S. Forest Service.

#### ***7) Biological Diversity in Working Landscapes: Topical Perspectives.***

***Little 120***

***Moderators: James R. Bernard, Maine State Planning Office, and Dr. Mary Foley, National Park Service.***

- 1:40 p.m. **Extremely Long Timber Rotations on Managed Lands: A Working Sketch of Economic and Practical Aspects of a Potential Landscape Management Tool.** Lloyd C. Irland, The Irland Group, Maine.
- 2:10 **Land and Resource Management Plan Direction For Habitat Diversity on the Green Mountain National Forest.** D. Clayton Grove, Green Mountain and Finger Lakes National Forests, Vermont and New York.
- 2:40 **Influence of Habitat Fragmentation on a Regional Nature Reserve Design.** James R. Stritholt and Ralph E.J. Boerner, Ohio State University.
- 3:10 **Conservation of Invertebrates: The Problems Posed by Biodiversity.** Dr. Howard S. Ginsberg, National Park Service Coastal Research Center, University of Rhode Island.
- 3:40 Break
- 4:00 **Three Hundred Years of Landscape Change on Cape Cod and the Nearby Islands.** Mark Adams and Dr. Peter W. Dunwiddie, Massachusetts Audubon Society; Dr. William A. Patterson III, University of Massachusetts.
- 4:30 **Evolution of a Working Landscape: Two Centuries of Changing Land Use in Clark County, Ohio, and the Implications For Protecting Natural Diversity.** Timothy A. Snyder, Ohio Department of Natural Resources.
- 5:00 **Historic Working Landscapes: Is Preservation Compatible With the Conservation of Biological Diversity? A Case Study.** Thomas G. Yahner, Neil P. Korostoff and Timothy P. Johnson, Pennsylvania State University.

#### ***8) Conservation in Marine Ecosystems.***

***Little 130***

***Moderators: Gary Davis, Channel Isl. National Park, and Dr. John Pearce, National Marine Fisheries Service.***

- 1:40 p.m. **Comprehensive Planning for Maine's Estuaries: Current Programs and the Need for New Techniques.** Louisa Rand Moore, University of Rhode Island.
- 2:05 **Mechanisms for Marine Natural Areas Protection Within the Gulf of Maine: U.S. and Canadian Approaches.** Melissa Waterman, Gulf of Maine Program, Maine State Planning Office.
- 2:30 **Environmental Data Management in the Gulf of Maine.** Maxine Schmidt, Massachusetts Coastal Zone Management.
- 2:55 **Conserving the Threatened Coastal Resource Against All Odds.** Dr. Helen Pickering, University of Portsmouth, England.
- 3:20 Break
- 3:50 **Combining Songbird and Fisheries Habitat Protection with Sustainable Economic Development on Virginia's Eastern Shore.** Laura McKay, Virginia Council on the Environment; Sarah Mabey, Virginia Department of Conservation & Recreation; Bryan Watts, College of William and Mary, Virginia.
- 4:15 **Who is Minding the Oceans?: A Look At Ocean Policy.** Inka A. Milewski, Conservation Council of New Brunswick.
- 4:40 **Maine's Baitworm Fisheries: Resources at Risk?** Dr. Betsy Brown, Colby College, Maine.

## 9) Fire Management in Working Landscapes.

Little 140

Moderator: Dr. William A. Patterson III, University of Massachusetts.

- 1:40 p.m. **Microhabitat and Fire Effects on the Demography of an Endangered Plant of Florida Scrub.** Dr. Eric S. Menges and Jennifer L. McAnlis, Archbold Biological Station, Florida.
- 2:05 **Preliminary Results of a Spring Burn in Two Ohio Fens.** Jennifer L. Windus, Ohio Department of Natural Resources; Betsy J. Esselman, Ohio State University.
- 2:30 **Fire and Natural Area Stewardship at a U.S. Army Training Facility in Virginia.** Gary P. Flemming and Thomas J. Rawinski, Virginia Department of Conservation & Recreation; Alan R. Dyck, Fish & Wildlife Management Branch.
- 2:55 **Do We Need a Stochastic Model for Applying Fire to Longleaf Pine Communities?** Kenneth W. Outcalt, USDA Forest Service.
- 3:20 Break
- 3:50 **Structural Changes in Two South Florida Upland Forest Communities (Pine Flatwoods and Hardwood Hammock) Over an Eleven Year Period: Providing Information for Long Term Management.** Jean M. McCollom and Michael J. Duever, National Audubon Society.
- 4:15 **Modified Prescribed Burning Techniques for Management in Natural Areas in Urban New York.** Robert Zaremba, Susan Antenen and Stephanie Gebauer, The Nature Conservancy.
- 4:40 **The Biological and Socio-Political Prospects for Long-Term Preservation of the Concord Pine Barrens and the Karner Blue Butterfly (*Lycaeides melissa samuelis*) in Concord, New Hampshire.** David VanLuvan, The Nature Conservancy.
- 5:05 **Development of an Inter-Organizational Program to Restore a Fragmented Ecosystem.** Tom Chase, Martha's Vineyard Sandplain Restoration Project.

## 10) Botanical Conservation in Working Landscapes.

Boardman 210

Moderator: Dr. Christopher Campbell, University of Maine.

- 1:40 p.m. **Conserving the North Landing River Wetland Ecosystem: A Model of Public-Private Cooperation.** Caren A. Caljouw, Virginia Department of Conservation and Recreation; and Steven Hobbs, The Nature Conservancy.
- 2:05 **Rare Plant or Weed? Orono Sedge, Maine's Only Endemic, Utilizes Herbicided Habitat.** Alison Dibble, University of Maine.
- 2:30 **The Ecology, Reproductive Biology and Population Genetics of *Ophioglossum vulgatum* (Ophioglossaceae) in Massachusetts.** Robert T. McMaster, Smith College.
- 2:55 **Large-Scale Population Changes of the Endangered Plant *Pedicularis furbishiae* Imply Large-Scale Conservation Needs.** Dr. Susan C. Gawler, Maine Natural Heritage Program; and Linda L. Gregory, Acadia National Park.
- 3:20 Break
- 3:50 **Seedbank Regeneration in a Western Lake Erie Wetland.** James S. McCormac, Ohio Department of Natural Resources.
- 4:15 ***Isotria medeoloides*: Monitoring a Federally Endangered Orchid in Maine.** Pati Vitt, University of Connecticut.
- 4:40 **A Floristic-Based Community Classification System for Virginia: Applying Concepts and Methods of the Braun-Blanquet Approach.** Thomas J. Rawinski, Virginia Department of Conservation and Recreation.
- 5:05 **A Study of Microclimates Associated with Populations of *Magnolia macrophylla* and *Tsuga canadensis* at Lake Katharine State Nature Preserve, Jackson, Ohio.** Philip M. Zito, Ohio Department of Natural Resources.

## Skill Building Workshop

### 11) Fundraising.

Little 219

Moderator: Robert McCance, Jr., Kentucky State Nature Preserves Commission.

**Overview of Funding Sources for State Natural Area Programs-Who Has What.** Robert McCance, Jr., Kentucky State Nature Preserves Commission.

**State Legislative Initiatives for Funding Land Acquisition and State Natural Area Programs.** Carol Baudler, The Nature Conservancy.

**Funding Sources for the Illinois Program.** Carl Becker, Illinois Division of Natural Heritage.

**Discussion of Fund Raising Options for Both New and Old State Programs.** (panel, with audience participation)

Dinner

6:15-7:00 p.m.

Natural Areas Association Annual Meeting

Hauck Auditorium • 7:30 p.m.

Fell Award Presentation

"National Biological Survey" • Discussion

Robin O'Malley, Department of the Interior

Silent Auction • Poster Session • Old Town Canoe Raffle

Wells Common

Evening Social

Wells Common

"The Maine Coast" hosted by The Friends of Acadia

**Thursday, June 24**

**Breakfast**

**7:00-7:30 a.m.**

**Field Workshops**

**7:30 a.m.**

**The field workshops will leave promptly at 7:30 a.m. Please be on time.**

**A) Acadia National Park-eastern**

Group Size: 40

Acadia, the only National Park in the northeast, presents park managers with the challenge of maintaining the natural landscapes of this dramatic coast and accommodating millions of visitors during a few peak months each year. The first stop will be on Cadillac Summit, which overlooks much of the park and coastal islands, for an overview of the Park's resource management programs. While touring the famous Loop Road, points of interest will include the air pollution monitoring site at Sand Beach, Peregrine Falcon restoration areas, and other management sites. After lunch at Sand Beach several hiking options are scheduled for the afternoon. This workshop provides information associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Bob Breen and Judy Hazen Connery, Acadia National Park.*

**B) Acadia National Park-western**

Group Size: 40

The western portion of Acadia National Park on Mount Desert Island supports a variety of very interesting natural habitats ranging from a coastal raised peatland, cobble beaches, rocky shores and headlands, spruce-fir forests, to salt marshes. The group will travel by bus to Ship Harbor/Wonderland area for a three hour hike. After lunch the group will visit Bass Harbor estuary, where environmental threats concerning this important area will be discussed. This workshop provides information associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Laurie Hobbs-Olson and Kathy Lyons, Acadia National Park; and David McDonald, Maine Coast Heritage Trust.*

**C) Schoodic Peninsula**

Group Size: 40

This field trip will tour the Schoodic Peninsula, a rocky windswept coastal region which includes a portion of Acadia National Park, a large naval base, and adjacent fishing villages of Winter Harbor and Corea. The group will visit several different sites that exemplify geology, rare plant communities and fire ecology of the area. Opportunities to hike to Schoodic Head and explore the shore will be offered. This workshop provides information associated with the symposium "Fire Management in Working Landscapes." *Group leaders: Linda Gregory, Acadia National Park, and Bill Weidner, ANP Ranger; Dr. William Patterson, University of Massachusetts; and Dale Woodward, Winter Harbor Naval Base.*

**D) Deer Isle, Isle au Haut & Merchants Row**

Group Size: 40

While traveling by boat from Stonington on Deer Isle to Isle au Haut (an island primarily owned and managed by Acadia National Park), this group will have the opportunity to view the 65 named islands and ledges that are scattered between the mainland and Isle au Haut. Collectively called Merchant's Row, the islands are topped by glacially rounded granite hills and spruce fir forest. Many of the islands are home to diverse and significant bird populations and have been settled since the early 1800s. Some have been actively quarried for granite. Several islands and ledges are owned by the Nature Conservancy and Acadia, or are protected by private landowners. The offshore waters support a strong lobster fishery. We will have lunch on Isle au Haut and a limited time for exploring. This workshop provides information associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Annette Naegel, Island Institute; Kent Mattingley and Michael Balaney, ANP Rangers; and Patty Ryan, Maine Coast Heritage Trust.*

**E) Frenchman Bay, Conservation in Marine Ecosystem**

Group Size: 45

On a three-hour boat trip, participants in this field trip will explore the waters of Frenchman Bay off Acadia National Park. Seabird, marine mammal, and bald eagle management, as well as island conservation, ecotourism, and local fisheries -- including salmon aquaculture -- will be topics of discussion on this scenic voyage. This workshop provides



information associated with the symposium "Conservation Partnership and Community Involvement in Working Landscapes." *Group leaders: Carolyn Pryor, Maine Coast Heritage Trust; and Charlie Todd, Maine Department of Inland Fisheries & Wildlife.*

**F) Sunkhaze National Wildlife Refuge Canoe Trip**

Group Size: 12

For four to five hours, the group will paddle canoes along Baker Brook and Sunkhaze Stream in the Sunkhaze Meadows National Wildlife Refuge in an open bog landscape. This peatland complex, is located just north of Bangor, has large, raised bogs separated from one another by extensive areas of streamside meadow. In the early 1980s, the seven million ton peat deposit attracted companies with plans to mine the peat for fuel. The area is now owned by USFWS and managed for multiple wildlife and recreational uses, including hunting, fishing, snowmobiling, cross country skiing, and boating. Refuge managers are concerned with developing a management plan for the refuge in the context of the surrounding working forest lands. This workshop is associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leader: Mark Sweeny, Refuge Manager, U.S. Fish & Wildlife Service.*

**G) West Branch of the Penobscot River**

Group Size: 28

The West Branch of the Penobscot River from Ambajesus Lake to the Ripogenus Dam is one of the most important nesting areas for bald eagles in inland Maine and is recognized as an outstanding river segment. The West Branch winds through the middle of an actively managed forest. Great Northern Paper has protected natural features along the river with easements and management plans. This segment of the West Branch with its Class V rapids and many pools supports a renowned fresh water salmon sports fishery and a whitewater rafting industry. Great Northern's water use plan for its hydropower system balances uses for recreation, fish populations, as well as hydro generation. State Registered Critical Areas are located along the West Branch and are maintained voluntarily by Great Northern. The Appalachian Trail which runs from Springer Mt. in Georgia to Mt. Katahdin in Maine, crosses the West Branch. The tour will stop at a remote scenic lake, working timber operation, other forest management sites and scenic spots along the West Branch. This workshop is associated with the symposium "Biological Diversity in Working Landscapes: Institutional Perspectives." *Group leaders: Marcia McKeague, Great Northern Paper; and Matthew LaRoche, Bureau of Parks & Recreation, Maine Department of Conservation.*

**H) North Woods/Forestland Management**

Group Size: 28

In Maine, most forest lands are owned and managed by private timber companies, and have traditionally been managed to allow multi-recreational use. The group will visit a variety of forestry operations on commercial timberlands including various land use situations such as timber harvesting operations, wildlife areas, and tree plantations. The challenges of maintaining biodiversity in intensively managed landscapes will be discussed. This workshop is associated with two symposia: "Biological Diversity in Working Landscapes: Institutional Perspective" and "Old-Growth Forests in Working Landscapes." *Group leaders: Pete Ludwig, Champion International Paper; and Malcolm Hunter, University of Maine.*

**I) Black Mountain/Wizard Pond**

Group Size: 28

The Tunk Mountain Watershed is marked by deep glacial lakes and coastal mountain ranges which afford spectacular scenic vistas. Mature stands of several forest types are found in the area. This workshop will include a moderately strenuous hike to the summit of Catherine Mountain, a bald summit with subalpine floral communities and steep cliffs. Other points of interest include unique lake ecosystems and old-growth oak and red cedar stands. Discussions will focus on the efforts among state agencies, and land trusts to conserve this important coastal mountain landscape. This workshop is associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leader: Ellen Lehto, Frenchman Bay Conservancy.*

**J) Duck Lake: Integrated Resource Management on Public Lands**

Group Size: 24

The 25,220 acre Duck Lake Management Unit contains six small lakes, numerous sand beaches and excellent cold and warm water fisheries. The lands are managed under the principles of multiple use to protect important species or natural communities, provide recreation opportunities, enhance wildlife habitat and manage high quality timber stands on a sustained yield basis. This group will travel to visit campsites, registered Critical Areas, venerable stands of hemlock and red pine, grouse management areas and recently harvested timber stands. Along the way, staff from the Bureau of Public Lands will discuss its approach to land management and the issues involved in balancing the often competing demands placed upon publicly owned lands. This workshop is associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Henry Whittemore, Robin Smith, George Ritz, and Joe Wiley, Bureau of Public Lands, Maine Department of Conservation.*

**K) Petit Manan National Wildlife Refuge**

Group Size: 26

Petit Manan Wildlife Refuge is a 3,335-acre preserve that includes property on Petit Manan Point, Petit Manan Island, and portions of other islands. The refuge encompasses a variety of coastal habitats including fresh and salt water marshes, tidal flats, bogs, beaches and islands. A moderately difficult hike on the Petit Manan Peninsula will afford sweeping views of offshore islands that are the breeding grounds of eider ducks, herring gulls, great black-backed gulls and arctic terns. Petit Manan Island is host to endangered Roseate Terns and one of the northernmost colonies of the Laughing Gull. Weather permitting, a boat ride to Dyer Bay will be offered. Other areas of interest are a coastal raised peatland, salt marshes and freshwater impoundments, cobble and sand beaches, and bald eagle nesting areas. This workshop is associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Margaret Anderson, Refuge Manager; and Dave Yarborough, Extension Blueberry Specialist.*

**L) Great Wass Island**

Group Size: 28

The Great Wass Island Archipelago is the largest undisturbed island complex on the Maine coast and supports a diverse boreal and maritime fauna. Mature stands of spruce and fir are interspersed with jack pine woodlands, tamarack covered bogs, open heaths and alder swamps. Shoreline habitats have some of the richest communities of marine algae and invertebrates on the east coast. This workshop will include a tour of the Beals Island Shellfish Hatchery in Beals and a moderately difficult hike through forests and along the spectacular coastline of The Nature Conservancy's Great Wass Island Preserve. This workshop is associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Julie Henderson, The Nature Conservancy; and Brian Beal, University of Maine.*

**M) Big Reed Forest Reserve**

Group Size: 20

The Big Reed Forest Reserve, 4,853 acres, is the largest tract of old-growth forest in New England. The forest includes northern hardwood ridges, knolls of red spruce, white cedar seepage swamps, and spruce-fir flats. Owned by the Pingree family for over 100 years, this tract is now owned and managed by The Nature Conservancy for long term monitoring and research. The workshop will focus on management of both the reserve and the forest around the reserve that is managed for timber production. There are no trails in the Forest Reserve -- this is considered a strenuous field trip. Because of the long driving distance, this trip will depart very early in the morning. This workshop is associated with two symposia: "Managing Natural Areas in Working Landscapes" and "Old-Growth Forest in Working Landscapes." *Group leaders: Barbara Vickery, The Nature Conservancy; Linda Alverson and Greg Davis, Seven Islands Land Company.*

**N) Baxter State Park**

Group Size: 13

Baxter State Park, encompasses 202,064 acres of pristine land and includes Maine's highest peak, Mt. Katahdin (elev. 5,267). This trip will emphasize the challenges of managing a wilderness recreation area. The Park Director, Irvin Caverly, will guide the trip and provide an inside view through the controversial management issues. This workshop is associated with the symposium "Managing Natural Areas in Working Landscapes." *Group leaders: Irvin C. Caverly, Park Director.*

**O) Moosehead Lake**

Group Size: 28

Moosehead Lake, the largest lake entirely within one New England state, will be the focus of this field workshop. Nearly 30 miles in length, Moosehead Lake shoreline is virtually undeveloped. The area around Moosehead Lake was the subject of comprehensive planning efforts in the early 1990's to balance development and conservation through the use of transfer of development rights, land acquisition, and zoning. Stops will be made at several sites along the lake including Mount Kineo (a moderately strenuous climb is optional for summit views), an endangered peregrine falcon restoration area adjacent to a historic site for resort development. Other stops will include visits to timber management operations near the lake and a landlocked salmon river conservation corridor. This workshop is associated with the symposium on "Conserving Rare and Endangered Species and Natural Communities in Working Landscapes." *Group leader: Jim Bernard, Maine State Planning Office.*

**Lobster Bake • Banquet****Social Event • Entertainment****Silent Auction • Old Town Canoe Raffle (conclusion)**

6:30 p.m.

"Is not all summer akin to a paradise?"

Henry David Thoreau

4/0 Acadia

Judy 207-288-5463

Friday, June 25

Deb Wade - chief Int.

Laurie Hobbs-Olson  
Env. Ed. Coord.

(207) 288-5459

Breakfast

7:00-8:00 a.m.

## FIVE CONCURRENT SYMPOSIA SESSIONS

8:00 a.m.-12:00 p.m.

### Invited Papers

12) *Conserving Rare and Endangered Species and Natural Communities in Working Landscapes.* **Little 110**  
Moderators: Paul Nickerson, U.S. Fish and Wildlife Service, and Alan Hutchinson, Maine Inland Fisheries and Wildlife.

8:00 a.m. Opening/Introductory remarks by Moderators

8:15 **The Restoration of Rare and Endangered Seabirds to Historic Nesting Sites in the Gulf of Maine.** Dr. Stephen W. Kress, National Audubon Society.

→ 8:40 **Status and Conservation of the Timber Rattlesnake.** Earl E. Possardt, U.S. Fish & Wildlife Service; Thomas F. Tying, Massachusetts Audubon Society.

9:05 **The Atlantic Coast Piping Plover Recovery Program.** Anne Hecht, U.S. Fish & Wildlife Service.

9:30 **The New England Plant Conservation Program (NEPCoP): A Regional Model.** William E. Brumback, New England Wild Flower Society.

9:55 Break

10:15 **The Role of Keystone Ecosystems in Landscapes.** Phillip Demaynadier and Dr. Malcolm Hunter, Jr., University of Maine, Orono.

10:40 **Recovery Efforts for the Endangered Small Whorled Pogonia (*Isotria medeoloides*).** Susanna L. von Oettingen, U.S. Fish & Wildlife Service.

→ 11:05 **Conservation of Listed Mussels in Virginia.** Richard Neves, U.S. Fish & Wildlife Service.

13) *Biological Diversity in Working Landscapes: Institutional Perspective.*

**Little 120**

Moderator: Patrick Flood, International Paper.

8:00 Opening/Introductory remarks by Moderator

8:15 **The Wild Adirondacks: A Singular Legacy, Diverse Landscape, and Insurmountable Opportunity.** David Gibson, Association for Protection of the Adirondacks.

→ 8:40 **We Must Replace the "Working Landscapes" With a Sustaining Landscape.** Michael J. Kellet, RESTORE: The North Woods.

→ 9:05 **Managing for Diversity in a Working Forest.** Michael S. Coffman, Environmental Perspectives, Inc.

9:30 **Wildlife in a Working Forest - Perspective from Northern New England.** Carol Foss, New Hampshire Audubon Society.

9:55 Break

10:15 **Natural Predators of Spruce Budworm.** Nancy B. Chandler, Merrymeeting Audubon Society.

10:40 **Forest Industry's Approach to Ecosystem Management.** Joe McGlinchy, International Paper.

11:05 **Perspective and Approach to Administering Landscapes - Sea Coast, Blueberry Barrens, Forest.** Christopher Leahy, Massachusetts Audubon Society.

→ 11:30 **Biodiversity in the Real World: Conservation in the Setting of Rural Communities.** Paul Doscher, Society for the Protection of New Hampshire Forests.

14) *Managing Natural Areas in Working Landscapes.*

**Little 130**

Moderators: Henry Whittemore, Maine Department of Conservation, and Barbara Vickery, The Nature Conservancy.

8:00 a.m. Opening/Introductory remarks by Moderators

8:15 **The Evolution of an Ideal: Scientific Forest Management in Baxter State Park.** Jensen Bissell, Baxter State Park.

8:40 **Protecting and Managing Rare Bat Habitat in a Working Forest.** Thomas R. Duffus, Adirondack Nature Conservancy/Adirondack Land Trust.

→ 9:05 **Exotic Plant Management in a Working Landscape: Challenges and Opportunities at Acadia National Park.** Judith Hazen Connery, Acadia National Park.

→ 9:30 **Selection Criteria for Forested Natural Areas in New England.** William Leak, Northeast Forest Experimentation Station.

9:55 Break

10:15 **Conserving Special Areas in an Industrial Forest.** Carlton N. Owen, Champion International Corp.

10:40 **The Waterboro Barrens: Managing a Pyrogenic Plant Community in the Heart of Maine's Vacationland.** Dr. William A. Patterson III, University of Massachusetts, Amherst.

11:05 **Issues in Managing Natural Areas in the Pacific Northwest.** Reid Schuller, Washington Natural Areas Preserves Program.

11:30 **Maine's Public Lands: An Integrated Resource Management Model.** Henry Whittemore, Maine Department of Conservation.

### **Contributed Papers**

#### **15) Aesthetic/Scenic Areas Conservation in Working Landscapes.**

**Little 140**

**Moderator: Terry DeWan, Terrance DeWan and Associates.**

- 8:00 a.m. Opening/Introductory remarks by Moderator
- 8:15 **Protecting a Remnant Southern New England Landscape Using GIS in Highway Alternatives Analysis.** G. Hellyer, and G. Charest, US Environmental Protection Agency.
- 8:40 **Scenic Landscapes: Balancing Nature and Culture.** Eleanor G. Ames, Maine Olmsted Alliance for Parks and Landscapes.
- 9:05 **What Can the Artist Offer to Conservation in Working Landscapes?** Stacy Levy, Sere Native Landscape Restoration; Neil Korostoff, Pennsylvania State University.
- 9:30 **Data Based Assessment of Regional Landscape Value.** Wayne A. Freimund, Dorothy H. Anderson and David G. Pitt, University of Minnesota.
- 9:55 Break
- 10:15 **Wilderness Values in Working Landscapes.** Dr. Dean Bennett, University of Maine.
- ✓ 10:40 **"Balance" the Challenge for Eco-Tourism and Protected Areas.** Ron Loughrey, New Brunswick Department of Natural Resources and Energy.
- 11:05 **Scenic Assessment Methods along the Maine Coast.** Terry DeWan, Terrance DeWan and Associates.

#### **16) Conservation Partnerships and Community Involvement in Working Landscapes.**

**Boardman 210**

**Moderator: Bob Reynolds, Superintendent, Acadia National Park.**

- 8:00 a.m. Opening/Introductory remarks by Moderator
- 8:15 **Learning to Love a Lousewort: Perspectives on Community-Based Education Efforts in the St. John River Valley (Maine/New Brunswick).** Elliott Gimble, Atlantic Center for the Environment.
- 8:40 **Building Community Support for Tortuguero National Park, Costa Rica.** Jessica L. Brown, Atlantic Center for the Environment.
- 9:05 **The Development of Community-Based, Sustainable Land-Use Activities in the Ecuador's Antisana Reserve.** Abigail Rome, World Bank/International Finance Corporation.
- 9:30 **Acadia National Park: A Case Study in Cooperative Management of Biological Diversity.** Bob Reynolds, Acadia National Park.
- 9:55 Break
- 10:15 **Preservation of Biological Diversity in the Balcones Canyonlands of Texas.** Terry L. Cook and T. James Fries, The Nature Conservancy - Texas Chapter; Dean P. Keddy-Hector and David D. Diamond, Texas Natural Heritage Program.
- 10:40 **Preserving Diversity in the Nordic Forest Landscape.** Mats Wikberg, Finland.
- 11:05 **Minnesota's Blufflands: Linking Private and Public Stewardship Across the Landscape.** Ellen J. Snyder, Kathryn Bolin and Harry Roberts, Minnesota Department of Natural Resources.
- 11:30 **Island Shepherd: A Sheep Fix for Open Space Preservation.** Marianne Fisher, Natural Resources Council of Maine.

### **Lunch and Speaker - Donald Falk**

**12:00-1:30 p.m.**

Mr. Falk is the co-founder and executive director of the Center for Plant Conservation located at the Missouri Botanical Garden. Mr. Falk is an internationally recognized authority on endangered plant conservation and co-edited "Genetics and Conservation of Rare Plants," published in 1991.

### **FIVE CONCURRENT SYMPOSIA SESSIONS**

**1:40-5:30 p.m.**

### **Contributed Papers**

#### **17) Conserving Rare and Endangered Species and Natural Communities in Working Landscapes. Little 110**

**Moderators: Paul Nickerson, U.S. Fish and Wildlife Service, and Alan Hutchinson,**

**Maine Inland Fisheries and Wildlife.**

- 1:40 p.m. **Piping Plovers in the Maritimes: Preservation Through Protection and Please.** Stephen Flemming and Gary Corbett, Canadian Parks Service.
- 2:05 **The Use of Critical Habitat Assessments in Natural Resource Management Plans.** Rick Van de Poll, Antioch New England Graduate School, New Hampshire.
- 2:30 **Reconstructing Natural Communities in Ozark Streams.** Charles F. Rabeni and David L. Galat, U.S. Fish and Wildlife Service; Robert B. Jacobson, U.S. Geological Survey.
- 2:55 **Conservation Strategies and Reserve Designs for Rare Plants.** Sara J. Oyler, University of Maine, Orono.
- 3:20 Break
- 3:50 **Private Landowner Values and Stewardship of Natural Communities and Rare Species in an Exurban Landscape.** Sherri A. Buss, University of Minnesota and Minnesota Department of Natural Resources.
- 4:15 **Caney Mountain Natural Area and the Evolution of Natural Area Systems.** Richard H. Thom, Missouri Department of Conservation.

- 4:40 **Preliminary Evaluation of Peatlands for Protection as Natural Areas: A Numerical Method.** Dr. Ronald B. Davis, University of Maine.
- 5:05 **Comparisons of Bird Habitat Between Old-Growth and Gypsy Moth-Infested Forests.** Dale K. Thurber, National Museum of Natural History.

**18) Biological Diversity in Working Landscapes: Institutional Perspectives.**

**Little 120**

**Moderator: Patrick Flood, International Paper.**

- 1:40 p.m. **Understanding and Protecting Biodiversity at the Landscape Level in Nova Scotia.** A. Lynds and J.M. LeDuc, Nova Scotia Department of Natural Resources.
- 2:05 **Making a Start in Guatemala: A Report on the Conservancy's Conservation Partnership.** Mark DesMeules, The Nature Conservancy -- Vermont Chapter.
- 2:30 **The Redesigned Forest: A New "York" Perspective.** Chad E. Covey and Robert L. Slavicek, New York Department of Environmental Conservation.
- 2:55 **Conservation of Biological Diversity on the White Mountain National Forest.** John Lanier and Steve Fay, White Mountain National Forest.
- 3:20 Break
- 3:50 **A Bird's-Eye View of Maine's Industrial Forest Landscape.** John M. Hagan, Manomet Bird Observatory, Massachusetts.
- 4:15 **Promoting Osprey Nesting Success in the Working Forests of Coos County, New Hampshire.** Christian J. Martin, Audubon Society of New Hampshire.
- 4:40 **Protection and Biodiversity Importance of the Polish Landscape Parks.** Dr. Wojciech Jankowski, Institute of Environmental Protection, Poland.
- 5:05 **A Protected Areas Policy for New Brunswick.** Martha L. Gorman, New Brunswick Ecological Reserves Program.

**19) Managing Natural Areas in Working Landscapes.**

**Little 130**

**Moderators: Henry Whittemore, Maine Department of Conservation, and Barbara Vickery, The Nature Conservancy.**

- 1:40 p.m. **Managing Adirondack High Summits.** Dr. Edwin H. Ketchledge, State University of New York; Kathleen D. Regan, The Nature Conservancy/Adirondack Land Trust.
- 2:05 **An Assessment of Golf Courses as Resource Preservation Areas.** John L. Magistro, Virginia.
- 2:30 **Application of the Limits of Acceptable Change Concept to Ecosystem Management of Natural Areas.** Wayne C. Zipperer and L. Robert Neville, USDA Forest Service.
- 2:55 **Restoration Management at the Cache River Joint Venture Project in Southern Illinois.** Max Hutchison, David Maginel and Tim Vogt, The Nature Conservancy.
- 3:20 Break
- 3:50 **Effective Stewardship of Small Natural Areas: North America's Most Outstanding Examples.** Lesley P. Brown and James R. Butler, University of Alberta.
- 4:15 **Managing Critically Endangered Species Within Small Hawaiian Ecosystems.** Robert W. Hobdy, Hawaii Department of Land and Natural Resources.
- 4:40 **Managing an English Rural Estate: Conservation in a Crowded Countryside.** Professor W. Seabrooke and Victoria M. Edwards, University of Portsmouth, England.
- 5:05 **Natural Area Management and Education in the Warner Parks.** Brian Bowen, Warner Park Nature Center, Tennessee.

**20) Old-Growth Forests in Working Landscapes.**

**Little 140**

**Moderator: Dr. Lucy Tyrrell, U.S. Forest Service, Rhinlander, Wisconsin.**

- 1:40 p.m. **The Nature of Old-Growth in the Northeast.** Dr. Charles V. Cogbill, Vermont.
- 2:05 **Survey of Old-Growth Forest in Massachusetts.** Dr. Peter W. Dunwiddie, Massachusetts Audubon Society.
- 2:30 **Sampling Guidelines for Old-Growth Forests in the Midwest.** Stephen R. Shifley and Richard C. Schlesinger, USDA Forest Service.
- 2:55 **Genetic Variation in Old-Growth Red Spruce.** Thomas A. Hulleberg and Dr. Robert T. Eckert, University of New Hampshire.
- 3:20 Break
- 3:50 **Lichen Diversity and Stand Continuity in the Forests of Northern New England and Western New Brunswick.** Dr. Steven B. Selva, University of Maine, Fort Kent.
- 4:15 **Assessing Population and Habitat Viability of Species Dependent on Old-Growth Forest in the Greater Fundy Ecosystem.** Stephen Flemming and Harry Beach, Canadian Parks Service.
- 4:40 **Small-Scale Natural Disturbance Regimes of Temperate Rainforests in Southeast Alaska: Implications for Management.** Robert A. Ott, University of Alaska, Fairbanks.
- 5:05 **The Grid-Block-Radius System: A Strategy for Landscape-Scale Management.** Gordon Kenyon, Albion, Maine; Arthur McKee, Oregon State University.

21) *Conservation from Global Perspectives in Working Landscapes.*

*Little 219*

*Moderator: Duane R. Pierson, Ph.D., Friends of Acadia.*

- 1:40 p.m. **Annapurna Conservation Area Biodiversity Conservation Data Project: A New Inventory Method for Nepal.** Dorothy Allard, King Mehendra Trust for Nature Conservation and The Nature Conservancy.
- 2:05 **Evaluation of the Flooding Regime of the Pantanal with Low Resolution Satellite Imagery.** Thomas Stone and Peter Schlesinger, The Woods Hole Research Center.
- 2:30 **Emerging Stewardship of Natural Areas in Central and Eastern Europe.** Brent Mitchell and Jessica Brown, Atlantic Center for the Environment.
- 2:55 **Managing Natural Areas in Hawai'i: Challenges and Solutions.** Betsy Harrison Gagné, Hawai'i Natural Area Reserve Commission.
- 3:20 Break
- 3:50 **Natural Diversity Management and the Life Cycle of an Alaskan Boreal White Spruce Ecosystem: Insights from Bonanza Creek LTER.** Dr. Glenn P. Juday, University of Alaska, Fairbanks.
- 4:15 **The Unique Geology and Ecology of the Niagara Escarpment - A UNESCO World Biosphere Reserve.** Phil Kor, Steve Varga and Jarmo Jalava, Ontario Heritage Foundation.
- 4:40 **The Forestry Sector in Rio Grande do Norte.** Maria Auxiliadore Gariglio

**Dinner**

**Wells Common • 6:15 p.m.**

**Closing Social**

**Wells Common**



**Saturday, June 26**

**Breakfast**

**Wells Common • 7:00-8:00 a.m.**

Optional Post-conference field trips (sign up during the conference)

- Coastal
- Inland



"For all at last return to the sea — to Oceanus, the ocean river, like the ever-flowing stream of time, the beginning and the end."

Rachel Carson

## **LOGISTICAL INFORMATION ABOUT THE UNIVERSITY OF MAINE**

**About The Union.** The Union is open from 7:00 a.m. and closes at about 9:00 p.m. The campus bookstore and post office, where basic pharmaceutical supplies, school supplies, books and snacks can be purchased, is located on the lower floor and is open from 8:00 a.m. to 4:30 p.m., Monday-Friday. Also on the lower floor are public telephones and pool tables. Registration will be on the ground level of the Union. The Damn Yankee, where some of the evening socials will be held, is on this floor as well and serves food from 7:00 a.m. to 3:30 p.m.

**Athletic Facilities.** The University of Maine's recreational and athletic facilities are available to conference participants. The charges for use of the facilities are \$3.00/person for the pool and \$4.00/person for the fitness center per day. There is no charge for use of the tennis courts, bike paths, outdoor basketball courts, and jogging trails. An extensive trail system exists around the campus and Orono.

**ATM/Cash.** Automatic Teller Machines are located on the bottom floor of the Union and at the campus Credit Union.

**Slideshows.** A room and slide projector in Wells Common will be available for those who have brought slides and wish to have an evening slide presentation. Please see the sign up sheet at registration for time slots.

**Parking and Walking.** Campus police are very strict about parking so please leave your car in the designated lots with your parking permit. If you do not have your permit, please obtain one from the Registration desk. The University is a walking campus so unless you drive off, you should not need to move your car.

**Emergency Numbers.** Contact the University of Maine, 8:00 am-4:00 pm, at (207) 581-4092; 4:00 pm-8:00 am at (207) 581-4040; Conference Fax: (207) 581-4087.

**For Assistance.** See Hank Tyler or Laura Longworth, Conference Coordinators.

**Maine Center for the Arts: Performing Arts Center.** Call 581-1755 for performance details and schedule.

**Hudson Anthropology Museum.** Located in the Maine Center for the Arts; hours are 9:00 a.m. to 4:00 p.m., Tuesday-Friday; and 9:00 a.m. to 3:00 p.m. on Saturday.

**University of Maine Museum of Art.** Located in Carnegie Hall; hours are 9:00 a.m. to 4:30 p.m., Monday-Friday.

In complying with the letter and spirit of applicable laws and in pursuing its own goals of pluralism, the University of Maine shall not discriminate on the grounds of race, color, religion, sex, sexual orientation, national origin or citizenship status, age, disability, or veterans status in employment, education, and all other areas of the University. The University provides reasonable accommodations to qualified individuals with disabilities upon request.

**University of Maine\***  
**Orono, Maine**  
**1993 Natural Areas Conference**  
**Locations**

