




RINHews

The Newsletter of the Rhode Island Natural History Survey

Vol. 2, No. 1

April 1995



President's Corner

Is Rarity Common in Rhode Island?

We consider an organism rare if it occurs in low numbers or in few locations. American Burying Beetles, for example, are rare because they occur in very few places, Block Island being one. Moose are uncommon in Rhode Island because they infrequently navigate the matrix of malls, neighborhoods, and highways that characterize many parts of the State.

At the Second Annual Rhode Island Natural History Survey Conference held last fall, we learned of another reason for rarity in Rhode Island's biota — lack of study! Rhode Island can hardly be considered the last unexplored frontier; however, many of the speakers pointed out that plants and animals once thought to be rare in the state are more common (or at least less rare!) than previously thought. The reason — no one had ever made a methodical survey of the organism(s). We learned that, in some cases, quality time spent by quality naturalists in carefully chosen habitats yields many more sightings of a species than were expected. The presentations by Joanne Michaud on Bog Copper butterflies, Rick Enser on Black-throated Blue Warblers, and Nina Briggs & Virginia Carpenter on dragonflies demonstrate how carefully planned field surveys and a focused search image for target taxa can result in notable refinement of our knowledge of species ranges or estimates of population size.

This once again points to the need for a systematic and comprehensive survey of Rhode Island's fauna and flora. How many of

our rare species are common? How many plants and animals that used to be quite abundant have disappeared or become scarce? The important question is **why** are populations on the rise or decline; but we cannot address the critical **why** questions until we have a better handle on **what taxa** and **where**. I hope the students attending the Fall Conference took note of this — there is no shortage of interesting and important ecology and biology that needs to be done in Rhode Island! The *Flora & Fauna of Rhode Island: A Systematic Survey* project (see article on page 2) is a critical first step in developing a solid understanding of RI's biota.

Peter V. August

URI Department of Natural Resources Science
Woodward Hall, URI, Kingston, RI 02881

Mission statement of the Rhode Island Natural History Survey

- To advance scientific knowledge of Rhode Island's biota, ecological communities, and environmental resources;
- To facilitate and coordinate the gathering and dissemination of information on Rhode Island's biota and natural communities;
- To enhance communication among Rhode Island's environmental and life scientists.

Research Report

Amphibian Monitoring in Rhode Island

According to recent reports in the scientific and popular literature, amphibian species are disappearing worldwide. Various potential causes have been suggested (including an NBC Nightly News report citing ozone loss leading to increased UV radiation coupled with the supposed susceptibility of amphibians to "sunburn"). All of this commentary, however, is supported by very little hard data on amphibian populations. In fact, in the eastern USA there are only two pertinent, long-term (pre-ozone depletion) census studies of amphibian population biology on record. One of these is being conducted right here in Rhode Island under the direction of Dr. Thomas Doty of Roger Williams University, in collaboration with Dr. C. Robert Shoop of the University of Rhode Island.

From 1970-78 Doty and Shoop trapped all the amphibians (over 30,000 individuals of 11 species) that visited two vernal breeding ponds on the W. Alton Jones campus of URI. Both adults and juveniles were censused and basic data on population dynamics were obtained. From 1978-93 the ponds were visited occasionally but the trapping system was removed. During that period, while the ponds were undisturbed (they are in an isolated and protected site), ozone depletion was first noted and the purported amphibian decline began. It seemed appropriate to once again census the amphibian populations at Alton Jones to see how they were doing after 15 years of recuperation.

In the spring and summer of 1994, supported by a modest research grant from Roger Williams University, Drs. Doty and Shoop, and some of their students, have reconstructed the original drift fence trapline at Pond A (the principal research pond in the 1970-78 studies). Very preliminary capture results (based on a partially completed series of drop traps, when compared to the 1970-78 data) suggest that a population decline in the more common amphibian species at this pond is not yet apparent. If this initial indication is borne out by subsequent data, then popular reports attributing frog declines to global loss of ozone may make it more difficult to save amphibians. It may be that more mundane activities are to blame—principally habitat destruction resulting from a general lack of

appreciation for the significance to amphibians of temporary spring ponds.

Funds permitting, Pond A will continue to be monitored daily by Doty, Shoop, and their students in an effort to comment fruitfully on the future of frogs and salamanders.

Thomas Doty, Department of Biology
Roger Williams University
Ferry Road, Bristol, RI 02809

Flora and Fauna of Rhode Island A Systematic Inventory Begins

The Rhode Island Natural History Survey is launching an exciting new project to catalogue the state's organisms.

The Flora and Fauna of Rhode Island: A Systematic

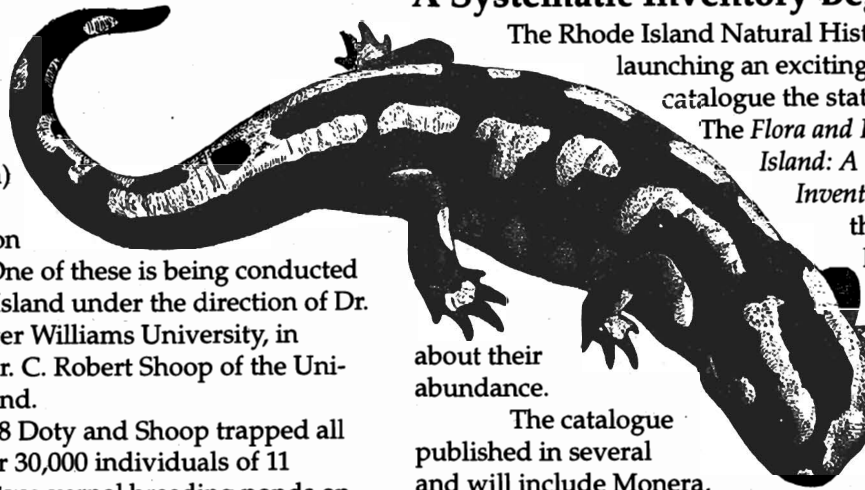
Inventory will list all the organisms known in the state and give information status and

about their abundance.

The catalogue will be published in several volumes, and will include Monera, Protista, Fungi, Plants, and Chordates and Invertebrates. Peter August of URI's Department of Natural Resources Science and Rick Enser, Coordinator of Rhode Island Natural Heritage Program, will edit the Chordates section; Howard Ginsberg of the National Biological Service & URI's Department of Plant Sciences will edit the Invertebrates section; and Lisa Gould, Executive Director of the R. I. Natural History Survey, will edit the Monera, Protista, Fungi, and Plants sections.

The following information will be given for each species: current binomial with authority; synonyms as appropriate; common name where known; level of vouchering for taxon's presence in Rhode Island; abundance (undetermined, rare/unusual, present, ubiquitous); breeding status (breeding, migratory, accidental); historical status (native, introduced, historic). Further refinements in the terminology for status categories may be developed for specific taxonomic groups.

While the catalogue is being prepared, the data will be entered into a database. In addition to the information mentioned above, the database will include range and distribution data; life history information such as habitat requirements, diet, reproductive patterns, and ecological role; and conservation status. This database will be main-



tained and updated as an on-going project of the RINHS.

When completed the catalogue will be available in both hardcopy and digital formats, and will be accessible via the Internet and a World Wide Web site.

One of the most useful aspects of the *Flora and Fauna of Rhode Island* catalogue will be the identification of gaps in our knowledge of the state's biota. The inventory will clearly identify those taxonomic groups for which few data exist and are in need of immediate attention by survey biologists. Such information is crucial if meaningful monitoring of the state's biota is to occur.

RINHS is currently seeking funding to support this project. The target date for publication of the first volume is March 1996.

USFWS Coastal Ecosystems Program

The U. S. Fish and Wildlife Service's Southern New England—New York Bight Coastal Ecosystems Program office area consists of an interconnected system of marine waters, estuaries, bays, coastal lands, and their extensive upland watersheds from Cape Cod, Massachusetts to Cape May, New Jersey, including the greater New York City metropolitan area. The marine and coastal waters in the region represent a transition zone between the colder waters of the North Atlantic and the warmer Mid-Atlantic; similarly, the lands in the watershed range from the boreal forest in the high northern mountains of the Connecticut River and Hudson River basins to the low-lying Atlantic coastal plain. These lands and waters support an abundance and diversity of living resources, and contain an extensive variety of physical environments and biotic communities. In addition, the geology of the region has created inland lakes and wetlands supporting rare migratory and resident animals and plants, as well as coastal islands whose faunal populations exemplify the process of speciation.

What is equally significant in our project region is the intense concentration of people and the anthropogenic changes wrought on the natural landscape. Since European colonization began in the 1600's, large-scale human impacts have altered the estuaries, wetlands, upland plains, and forests of the project region. This area today is inhabited by millions of people. It contains their residential, commercial, and industrial buildings, and is traversed by an infrastructure of highways, railroads, sewers, septic systems, water lines, power lines, and gas lines. Harbors have been bulkheaded and dredged, wetlands filled, forests cleared, and grasslands destroyed. Everything that people do to a landscape in order to live on it has been done here.

These human actions in the region's coastal areas over the past 300 years have led to the loss or decline of many species through pollution, overharvesting of resources, and destruction of important habitat types. Introduced exotic species of plants and animals accompany human intrusions; without the restraints of natural predators or diseases, these nonnative species often flourish, always at the expense of indigenous species.

Species follow their genetic programming, and through the millennia have moved back and forth over the landscape in response to natural seasonal cycles; they will continue to try to migrate through, nest or spawn, or spend the winter in their historically programmed areas even in the face of major and adverse changes in the physical environment. Those species with very specific needs, those less flexible to changes in their environment or otherwise vulnerable to human-made changes, have become scarce or disappeared (including the Heath Hen, Labrador Duck, Great Auk, and Passenger Pigeon). In the Southern New England—New York Bight watershed, however, there are also species more robust than anyone could have imagined and whose populations persist in the face of almost insurmountable odds. What little open space remains is critical to these species. Here in the Southern New England—New York Bight Coastal Ecosystem no species is an island, but their habitats are!

Marcianna Caplis, Outreach Specialist
USFWS Southern New England—New York
Bight Coastal Ecosystem Program

New Rhode Island Bedrock Map

The Rhode Island Office of the State Geologist announces the publication of a new state bedrock map, compiled by O. Don Hermes, Peter Gromet, and Daniel Murray.

The 1:100,000 map measures 42" by 50" and is available either flat (rolled) or folded in a vinyl envelope. The price of the map is \$8.00 plus \$4.00 shipping and handling.

To order, send a check or money order payable to: **University of Rhode Island Account #300082**, along with your name and address, to:
Office of the State Geologist
Department of Geology
University of Rhode Island
Kingston, RI 02881

Be sure to indicate the number of copies desired and whether you prefer flat or folded versions.

For more information contact State Geologist Allan Cain at (401) 792-2265; Fax: (401) 792-2190.

Student Project on Prudence Island

In October of 1994, the ecology class at Rocky Hill School began a survey of the salt marsh along the north shore of Coggeshall Cove on Prudence Island. The objective was to compare the Coggeshall Cove marsh with that of Marsh Point at the mouth of the Potowomut River. Marsh Point is on the Rocky Hill School campus. The comparison will plot the vegetation zones by species and will correlate these zones, in the two sites, along the parameters of elevation, salinity, and macro- and micro-invertebrates.

This project has been supported through the fall and winter by the Rhode Island Department of Environmental Management, which has provided a vessel and operator to move students from the Rocky Hill campus beach to Prudence Island and return. On-site taxonomic assistance has been provided by Lisa Gould of the R. I. Natural History Survey.

We will continue to develop the study by completing vegetation plots during the spring of 1995. The elevation, salinity, and invertebrate correlations will be started in the fall of 1995.

Area scientists who are predisposed to working with highschoolers in the field, and participating in one or more of our afternoon sessions in the marshes, are encouraged to contact Joe Laterra at (401) 884-9070.

*Joseph Laterra, Rocky Hill School
530 Ives Road, East Greenwich, RI 02818*

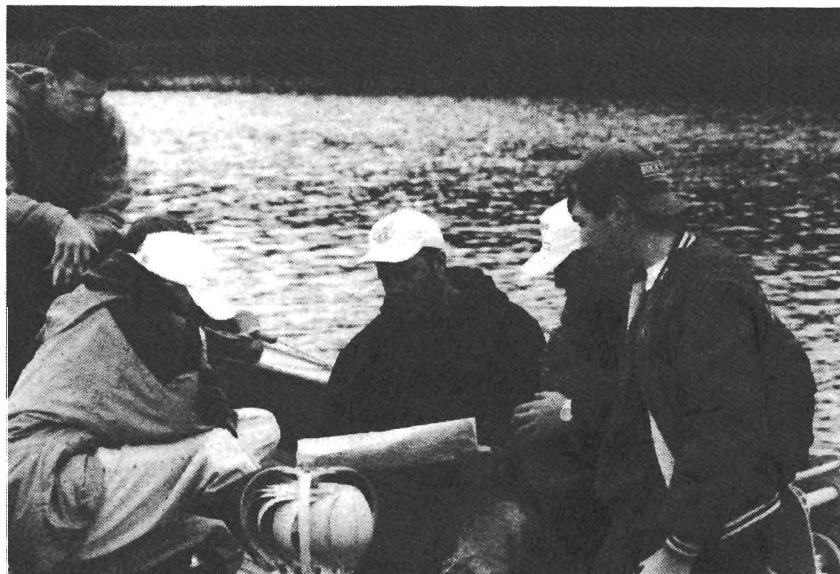
Rhode Island Collections

The Elizabeth Dickens Bird Collection

The Elizabeth Dickens Bird Collection is an interesting historical collection comprised of a variety of birds that reflect Block Island's environmental history. In addition to a variety of ocean-going birds and shorebirds the collection has some accidental wanderers such as the Magnificent Frigatebird, Northern Lapwing, and Snowy Owl. Specimens such as the Horned Lark, Eastern Meadowlark, and Loggerhead Shrike, once common because of the island's extensive open farm fields but now infrequently seen, represent the island's changing landscape. The collection also holds a nice variety of migratory songbirds.

The Elizabeth Dickens Collection is an important ornithological record that spans 43 years. The oldest birds in the collection are: Virginia Rail, Northern Phalarope, and Eastern Meadowlark, all found dead on Block Island in 1923. The most recent additions are: Green-winged Teal, Cardinal, Ring-necked Duck, and Red-headed Woodpecker, all added in 1966. There are also some interesting Rhode Island records in the collection: Bridled Tern (September 14, 1960) was the first Rhode Island record of the species; a Blue Goose (November 18, 1933) was the third record of the species in Rhode Island; and a Ruddy Shelduck (October 8, 1951) was the third record for the species in North America (notation of these records comes from Elizabeth Dickens' notes).

(continued on page 5)



While anchored in Coggeshall Cove, Rocky Hill School students are briefed on plot technique by science teacher Mike Jedry.

The collection is not only important for its specimen records but also because it acts as a symbol of a strong conservation ethic that is held by many of Block Island's residents. Miss Dickens, as she was known on the island, taught Bird-Study in the Block Island schools (first at the district schools around the Island, and after 1933 at the consolidated Block Island School). From Miss Dickens' formal instruction in Bird-Study there was a natural evolution of interest from the physical birds themselves to their life histories and habitats. This interest in birds and their interrelationship to the landscape provided the basis for an attitude of care and kindness towards the land which expanded first among student and teacher, then from students to family, neighbors, and ultimately as an accepted attitude of the community. This evolution did not result in a *new* land conservation ethic, but rather an articulation of an existing ethic. A land ethic that includes, as its principle components, preservation, conservation, and an understanding and acceptance of the interconnectedness of the island's ecosystems. Elizabeth Dickens did not teach or create this ethic, she lived it. And so by example she taught and inspired generations of students, students who have grown up to be community leaders.

Elizabeth Dickens was a self-taught ornithologist and her initiation into the world of bird observation, teaching, and collecting is best told in her own words (*Forty Years of Audubon Work*, by Elizabeth Dickens, *Report of the Audubon Society of Rhode Island's Bird-Study Teacher on Block Island read at the Annual Meeting of the Society*, Providence, November 3, 1955).

On March 4, 1909, at Dickens Point, Block Island, I shot a huge black "goose" which my father promptly identified as a Black Australian Swan. We both realized this was a rare specimen which must not be destroyed. Consequently, I sent it to Angell & Cash, Providence taxidermists, by the first boat. They in turn, sold it to a Mr. Stainton who gave it to the Roger Williams Park Museum provided they would pay for mounting.

Thus the bird came into the hands of my late friend Mr. Harold L. Madison, then curator of the Museum, and thus it proved to be my introduction to some of the outstanding bird students of Rhode Island.

In February, 1911, while I was visiting the Museum, Mr. Madison gave me a set of Audubon Bird Leaflets and asked if I wouldn't like to show them to the boys and girls of our District Schools. This I did...In less than two years we had more than 100 Junior Audubon Members and as a reward for our interest Mr.

Madison brought a projector and slides and gave us our first illustrated bird lecture. The Masonic Lodge very generously gave us the use of their hall for this purpose.As secretary of the Society, Mr. Madison, in 1914, asked me to visit each school once a month as a Bird-Study Teacher.In a very short time the children became so deeply interested that they brought every dead bird they found to the Bird-Study Teacher, and my garden became a veritable bird cemetery...

Through a variety of funding sources a small amount of money became available for mounting specimens.

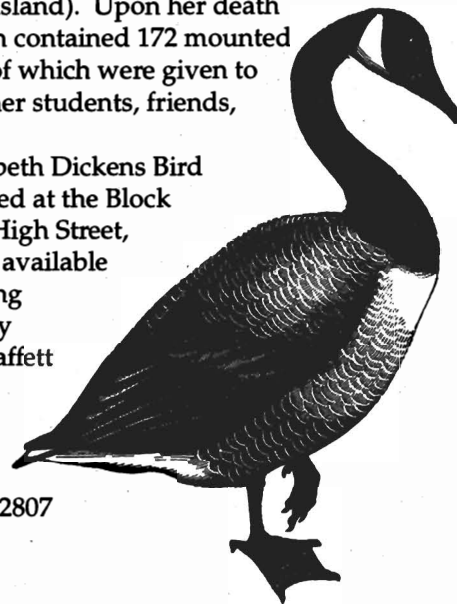
This marked the beginning of our School Collection of Mounted Birds. Each of these birds is an accident victim, as I will not accept any bird shot for this purpose. We do have less than half a dozen geese and ducks which were taken lawfully and in the open season on these birds. Through the generous efforts of our local P.T.A. we obtained an excellent moth-proof and dust proof case for our treasures.

At least once each month practically every child in school, from pre-primary through senior high, reports to me on the birds which they have observed since my last visit. Sometimes I present a bird movie, the ticket to this show consists of the individual's bird list for the previous month. We almost never mention the "law on birds." We do talk a lot about their joy and value.

Elizabeth Dickens was born in 1877 and died in 1963. Starting in the early 1900's she kept a daily record of the birds that she saw, thus providing a valuable observation record spanning over 50 years (Elizabeth Dickens' journals are held at the Audubon Society of Rhode Island). Upon her death the Bird Collection contained 172 mounted specimens, most of which were given to Miss Dickens by her students, friends, and neighbors.

The Elizabeth Dickens Bird Collection is housed at the Block Island School on High Street, Block Island. It is available to the public during school hours, or by contacting Kim Gaffett on Block Island.

Kim Gaffett
P. O. Box 640
Block Island, RI 02807



Dr. Irene H. Stuckey: RINHS' Distinguished Naturalist

At the RINHS Annual Conference in October, 1994, Dr. Irene H. Stuckey was the recipient of the first Rhode Island Natural History Survey Distinguished Naturalist Award. This award is given each year to an individual who has made significant contributions to our knowledge of Rhode Island's biota and habitats, and who has worked to share this knowledge with the state's scientific community and the general public.

Dr. Stuckey is well known to the public for her beautiful photography, exemplified in her book *Rhode Island Wildflowers*, and for her years leading nature walks throughout the state. She has inspired thousands of people over the years, opening their eyes to the beauty and intricacy of the natural world. The scientific community is also familiar with her decades of

work at URI's agricultural experiment station, where her research included work on food plants, forage and nursery crops, and pasture renovation. In later years at URI her work shifted to the conservation of native plants and saltmarsh ecology.

Dr. Stuckey planned the trails at the Nettie Jones Nature Preserve on URI's Alton Jones Campus, and led walks there for over thirty years.

During the years since her 1978 retirement from the University of Rhode Island, she has continued to lead walks, write articles, give lectures, consult on wetland assessment and restoration projects, and add to her extensive slide collection. She is currently preparing a book on seashore plants, based on the 60-plus articles, "Plants Beside the Sea" which have appeared in *Maritimes* from 1975 to the present.

It was with great pleasure that RINHS chose Dr. Stuckey to receive its first Distinguished Naturalist Award.



Share Your Slides!

RINHS and URI Cooperative Extension are working together to prepare a series of slide talks on Rhode Island ecological communities. The first talk will focus on the state's terrestrial communities, and will be ready for Fall 1995.

The talks are based on the upcoming publication *A Natural Community Classification for Rhode Island*, currently in preparation by Rick Enser of RIDEM's Natural Heritage Program and Lisa Gould of RINHS. This publication will describe each community type and give its distribution in Rhode Island, examples of specific locations, and characteristic organisms found there. In addition, a diagnostic key to the natural communities of Rhode Island will be included.

The slides talks are aimed at the high school level, but are adaptable for other levels. Each talk

includes approximately 60 slides with an accompanying script and glossary of terms. The programs will be sold on an at-cost basis.

Slides of Rhode Island's natural communities and organisms are needed.

At this time,

we are looking especially for slides of terrestrial communities, which includes Open Uplands (Maritime Beach, Dunes, Shrubland, Grassland, and Cliff; and Inland Dunes/Sand Barrens), Barrens and Woodlands (Pitch Pine/Scrub Oak Barrens and Red Cedar Rocky Summit), and Forested Uplands, as well as slides of the organisms which inhabit these communities.

Donations of originals are preferred; permission to duplicate an original is also acceptable. Photographers will be credited every time a slide is used. Slides will be housed in the Special Collections room at the URI Library, and will be accessible only by the RINHS. If you have slides to donate or loan for duplication, please contact the RINHS office at (401) 792-5800 immediately.

RINHS Library Up and Growing!

Thanks to the generous donations of members and friends, the RINHS reference library is beginning to take shape. These gifts have been very useful for both the RINHS office and the staff at the Cooperative Extension Education Center. In particular we would like to thank the following individuals and organizations for their gifts to the library: David Abedon, Applied Science Associates, Linda Arnold-Fabre, the Connecticut Geological and Natural History Survey, William Eddleman, Richard Enser, Frank Golet, Mark and Lisa Gould, the family of Mildred B. House, Peter Lockwood, the North Carolina Biological Survey, the Ohio Biological Survey, the Providence Athenaeum, Irene B. Stuckey, the Rhode Island Office of the USDA Natural Resources Conservation Service, and the Cooperative Extension Service of the URI College of Resource Development. Thanks also to the URI College of Resource Development for the donation of a bookcase to house our growing library.

RINHS welcomes literature on Rhode Island's biota, geology, hydrology, and habitats. We are especially seeking up-to-date taxonomic references, to help in preparing the *Flora and Fauna of Rhode Island: A Systematic Inventory* (see page 2). If you have materials to donate please call the office at (401) 792-5800; we also welcome cash donations for the purchase of reference materials.

Neat New Books

Block Island Geology: History, Processes and Field Excursions, by Les Sirkin (1994, Book & Tackle Shop, Chestnut Hill, MA, 203 pages, \$15; ISBN 0-9-10258-20-1) is a new look at the past and present geology of Block Island. Sirkin, a professor of geology at Adelphi University and summer resident on Block Island, discusses ongoing geological processes on the island, and suggests ten field trips for the study of the island's geology.

Education for the Earth: The College Guide for Careers in the Environment, Peterson's 2nd Edition (1994, 327 pages; 7 x 10 pb; \$14.95; ISBN 1-56079-407-0). An in-depth guide to environmental programs at colleges and universities throughout the United States and Canada, accompanied by essays on specific career paths. Five broad career areas are highlighted: environmental engineering, environmental health, environmental science, general environmental studies, and natural resource management. Included in each program's profile is information about enrollment, costs, admissions, and faculty, as well as details such as field work opportunities, facilities, graduate study, and employment. Printed on

recycled, chlorine-free paper, the book may be purchased at local bookstores or ordered from Peterson's Customer Service, 1-800-338-3282.

WEThings: Wetland Habitat Indicators for Non-Game Species (Wetland dependent amphibians, reptiles and mammals of New England), by Alison L. Whitlock, Nancy M. Jarman, J. Antonio Medina, and Joseph S. Larson (1994, Environmental Institute, Amherst, MA, 2 volumes, \$75). Volume I: Instructions and Windows-based disk; Volume II: Literature review and individual species models. "Many wildlife species are undergoing serious population declines throughout their ranges due to habitat fragmentation and other anthropogenic effects. State and federal agencies are subject to increasing pressure to identify important habitat features for impact assessment, mitigation, and conservation initiatives. Until now, no methodology existed that allowed agencies to predict potential habitat for wetland-dependent amphibians, reptiles, and mammals. Funded by the New England Transportation Consortium and the Federal Highway Administration, *WEThings* serves as a methodology to meet this need in the New England states. The *WEThings* method is based on an extensive literature review of measurable habitat characteristics conducted for 22 amphibian, 15 reptile, and 22 mammal species, many of which are listed as rare, threatened, or endangered in at least one of the six New England states. Detailed summaries of the literature base were compiled for each species and serve as the basis from which predictive models were produced. The models may be used individually but also have been combined into a software package that provides a composite habitat predicting model for all species. *WEThings* enables researchers, consultants, and state and federal regulatory agencies to better predict potential habitat for these species." (review from CONSLINK, the Conservation Network). Publication 94-1 of the Environmental Institute, Blaisdell House, University of Massachusetts, Amherst, MA 01003-0820.

Endangered Ecosystems of the United States: A Preliminary Assessment of Loss and Degradation, by R. Noss, M. Scott, and E. T. LaRoe (1995, National Biological Service, Biological Report 28, 58 pp.) will be available in hardcopy in mid-April, 1995. Contact USFWS Publications Unit, 4401 North Fairfax Drive, Mail Stop Code 130, WEBB Building, Arlington, VA 22203; (703) 358-1711; Fax (703) 358-2314. The document is also available in Word Perfect 5.1 format and can be received via the Internet at: nbsitclib@mail.fws.gov

RINHS *Directory* Forthcoming

The Rhode Island Natural History Survey will soon be distributing the 1995 edition of *A Natural History Directory for the State of Rhode Island*, a listing of the organizations and individuals involved in studying, teaching about, protecting, and regulating Rhode Island's biota and habitats.

The upcoming *Directory* will list organizations and individuals in the following categories: Mammals, Birds, Reptiles and Amphibians, Fish, Invertebrates, Plants and Fungi, Ecosystems (which includes Habitats, Geology, Hydrology, and Soils), Education, Organizations, and Environmental Consulting Firms. In addition to contact information, individual listings include information about each person's areas of expertise and research; organizational listings give the mission and programs offered by the organization.

Packed with information, the *Directory* will be an essential resource for scientists, educators, planners, and anyone else who needs specific information about the state's biota, habitats, and the people and organizations involved with them.

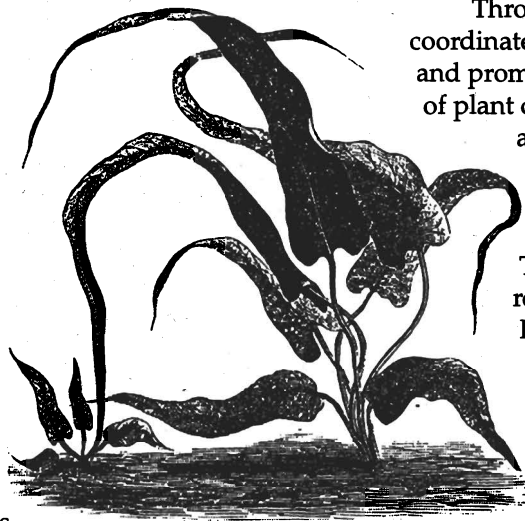
RINHS members will receive a free copy of the *Directory*; additional copies will be available for sale. The target date for distribution is mid-May. If you or your organization have not received a form to be listed in the *Directory*, contact the RINHS office at (401) 792-5800 ASAP!

Providence Athenaeum Completes Natural History Bibliography

The Providence Athenaeum is putting the finishing touches on its illustrated bibliography of the library's natural history works, and plans

to have the catalogue ready for distribution in fall, 1995. The bibliography will list over 600 titles from the Athenaeum's large holding of 19th century natural science publications.

This project was partly funded with a grant from the Rhode Island Natural History Survey. For more information about the project, contact Carol Cook at (401) 421-6970, or visit this beautiful library, located at 251 Benefit Street in Providence.



New England Plant Conservation Program

The words "endangered species" usually conjure thoughts of pandas, eagles, or whales. Possibly the tropical rainforest comes to mind. Few people realize that wild plants are in crisis worldwide—even here in our own regional "backyard." In New England nearly 350 of 2000 indigenous plant species are at risk, and some have already vanished from historic locations.

To address the issue of plant endangerment, the New England Plant Conservation Program (NEPCoP), a voluntary alliance of over 65 botanists, private institutions, and government agencies, was organized in 1991 to prevent the extirpation and promote the recovery of this region's endangered flora.

NEPCoP aims to develop consistent approaches in different states regarding such issues as rarity, habitat management, reintroduction of endangered plants, and taxonomy. A Regional Advisory Council oversees these policies and all regional elements. State Task Forces, the heart of the program, review plant endangerment in each state by examining the plants in their habitats, suggesting management options, and collecting seed for a seed bank and propagation. Protection of plants in their natural habitats is the goal of the program.

Through its collaboration, NEPCoP helps coordinate limited plant conservation resources and promotes public awareness of the **importance** of plant conservation. NEPCoP is a prototype for a nationwide tier of similar regional programs that will bridge the gap separating national from state and local programs.

The following organizations have representatives on the Rhode Island Task Force: Audubon Society of Rhode Island, Brown University Department of Ecology and Evolutionary Biology, The Nature Conservancy, Rhode Island College Department of Biology, Rhode Island Natural Heritage Program, Rhode Island Natural History Survey, Rhode Island Wild Plant Society, and the University of Rhode Island.

For more information about NEPCoP write or call:

William E. Brumback, Conservation Director
New England Wild Flower Society,
180 Hemenway Road, Framingham, MA 01701
(508) 877-7630 ext. 3201.

National News

The National Institute for the Environment

The National Institute for the Environment (NIE) is garnering support from a variety of government and civic leaders. According to Stephen Hubbell, Chairman of the Committee for the National Institute for the Environment (CNIE), the NIE has strong bipartisan support in Congress, and has been endorsed by House Speaker Newt Gingrich, Senate Minority Leader Tom Daschle, EPA administrators, corporate leaders at DuPont, and the Sierra Club, as well as many other businesses, universities, and environmental organizations.

The focus of the NIE is to provide better science. According to the Winter 1995 CNIE Newsletter, the NIE will:

**Assess environmental knowledge and identify issues of critical importance where information is needed.*

**Fund peer-reviewed research in the natural and social sciences, engineering, economics, and other fields as required to understand an environmental issue.*

**Communicate environmental information through an easy-to-use electronic National Library for the Environment.*

**Support education and training to prepare environmental scientists and professionals of the future.*

The NIE board, made up of leaders from state and local government, sciences, business, environmental and community groups, will set priorities for NIE research and ensure that it addresses the needs of the entire nation.

The NIE will complement, not duplicate research done by other agencies. Research directors of government agencies will serve on an interagency advisory committee to help NIE coordinate with existing federal programs.

To minimize costs and bureaucracy, the NIE will not operate laboratories but will competitively award peer-reviewed research grants to the nation's best scientists in academic institutions, government labs, nonprofit organizations, and private companies.

To ensure the credibility of its research, the NIE will be independent, and free from the political influences of regulation and resources management.

The Committee for the NIE is a national nonprofit group of more than 9,000 scientists, environmentalists, business leaders, and other concerned citizens.

Individuals interested in supporting the NIE should contact Senator Chafee's office and ask him to work with Senator Daschle's office to draft and introduce a bipartisan bill.

For more information, contact:
Committee for the NIE, 730 11th Street, N.W.,
Washington, D.C. 20001-4521; (202) 628-4303
Fax: (202) 628-4311; Internet: cnie@access.digex.net

Web Spinning on the Internet

Imagine being able to display on your computer a picture of that fish your colleague in New York is studying. Or better yet, to see and hear a video clip of the fish in its natural environment! You may already be familiar with GOPHER's (the cyber variety, not the geomyid rodent), a text-based information system on the Internet that connects computers and databases all over the world. But GOPHER has been overshadowed by a new addition to our toolbox of Internet access resources. With the World Wide Web (WWW or "the Web" for short) and software like Mosaic or Netscape, you can connect to multimedia databases around the world that provide scanned images, video, sound and magazine-quality documents.

Ecology and Natural History are particularly active topics on the Web. Universities, colleges, public agencies, museums, and individuals have posted homepages (information databases) on the Web highlighting their services and research. If you have access to the Internet or subscribe to one of the major online companies such as Prodigy or America Online then you can access the WWW. There are thousands of interesting homepages and here are the Web addresses (the <http://> code) of several sites that are especially relevant to issues of biodiversity:

Biodiversity at CIESIN. The Consortium for International Earth Sciences Information Network. This is a giant database of all kinds of environmental information
<http://www.ciesin.org>

The Museum on-Line: the Roger Williams Park Museum of Natural History. Information on exhibits and activities at RI's Natural History Museum.
http://ids.net/~cormack_pl/museum.html

Biodiversity and Biological Collections WWW Server. A great collection of information on systematic collections, including scanned images, collection standards, etc.
<http://muse.bio.cornell.edu/>

Catalog of Marine Fish and Inverts. Digital images of fish and invertebrates.
<http://www.actwin.com/fish/species.html>

United States Geological Survey-HTTP Server-Home Page. This is huge! There is something here for everyone. Topics include maps, environmental studies, and scores of databases. <http://info.er.usgs.gov/>

Biodiversity, Taxonomy, and Conservation at the Australian National University. A massive database of biodiversity information for Australia and the rest world.
<http://life.anu.edu.au/>

The Web Crawler. This is a great tool to locate homepages based on key words or phrases that you provide <http://webcrawler.cs.washington.edu/WebCrawler/WebQuery.html>

Roland J. Duhaime, Research Associate, Department of Natural Resources Science, University of Rhode Island

Opportunities for Volunteers & Students

Audubon Society of Rhode Island, 12 Sanderson Road, Smithfield, welcomes volunteers to help with property surveys and inventories, checking property bounds, doing trail maintenance, and serving as trail wardens. Contact Properties Manager Dave Rodrigues at (401) 949-5454.

The Providence Athenaeum, 251 Benefit Street, Providence needs an intern for approximately five hours per week, editing, filing, researching, etc. Contact Carol Cook, (401) 421-6970.

Rhode Island's National Wildlife Refuges: Be a volunteer and help make a difference at one of Rhode Island's National Wildlife Refuges. Ninigret, Trustom Pond, Pettaquamscutt Cove, Sachuest Point, and Block Island Refuges need your help counting wildlife, banding birds, constructing nesting boxes, maintaining trails, leading nature walks, and assisting refuge visitors. The program offers you four areas of opportunities, including biological, visitor interpretation, education and orientation, maintenance, and miscellaneous skills.

Immediate opportunities include someone with photographic skills, particularly 35mm and 2X2 format, to photograph refuge resources and events, conduct call count surveys for waterbirds, conduct point counts at Sachuest Point NWR, and conduct aural surveys for frogs at Ninigret NWR. For more information contact Ron Flores at (401) 364-9124.

Roger Williams Park Museum of Natural History, Elmwood Avenue, Providence has a number of collection-related projects readily adaptable as (unpaid) student internships and volunteer opportunities. Among these projects are curatorial upgrading, nomenclatural updating, inventory and conservation of the museum's 10,000 specimen herbarium.

Opportunities to work with other natural and physical science collections exist as well. Independent research that earns college or graduate credit toward degree completion is encouraged and welcomed. For further information contact: Marilyn Massaro, Curator, (401) 785-9451 ext. 248.

Roger Williams Park Zoo, Elmwood Avenue, Providence, has an intern program designed for people considering a career in the zoo world. It provides initial zoo experience and exposure to different zoo careers. Interns spend a minimum of 4 days/week for 10 weeks in the program. Admission to the program is based on an application and interview. For information contact: Curator of Education, Roger Williams Park Zoo, (401) 785-9450.

Rhode Island Natural History Survey, Inc.

Cooperative Extension Education Center
E. Alumni Ave., URI, Kingston, RI 02881
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Virginia A. Carpenter, The Nature Conservancy

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Annual Membership Fees:

\$20 Individual

\$50 Institution (nonprofit)

\$500 Corporate

\$10 Student/Limited Income



Upcoming Conferences & Seminars

April 27 *Recruitment of the Rock Crab (Cancer irroratus): Proximal Mechanisms and Evolutionary Implications*, Mike Clancy, URI Department of Zoology, Kingston, RI. 4:00 p.m., A-105 Biological Sciences Building, URI. Refreshments at 3:30 p.m.

April 28-30 *1995 Northeast Regional Marine Mammal and Sea Turtle Stranding Network Conference*, Riverhead, New York. Contact Sally Kiss, Okeanos Ocean Research Foundation, Inc., 278 E. Montauk Hwy P. O. Box 776, Hampton Bays, NY 11946; (516) 728-4522.

May 23-25 *Measuring and Monitoring Forest Biological Diversity: The International Network of Biodiversity Plots*, Smithsonian Institution, Washington, D.C. Sponsored by the Smithsonian Institution and the U. S. National Committee for the Man and the Biosphere Program. Contact Dr. Francisco Dallmeier, 1100 Jefferson Drive SW, Suite 3123, Washington, D.C. 20560; (202) 357-4793; ic.fgd@ic.si.edu

June 7-11 *9th Annual Meeting of the Society for Conservation Biology*, Fort Collins, Colorado. Contact Richard Knight, Department of Fishery and Wildlife Biology, Colorado State University, Fort Collins, CO 80523; (303) 491-6714.

June 15-19 *75th Annual Meeting of the American Society of Ichthyologists and Herpetologists*, Edmonton, Canada. Contact Conference Services, University of Alberta, 44 Lister Hall, Edmonton, Alberta, Canada T6G 2H6; (403) 492-4281.

June 22-24 *Native Plants in the Landscape* annual conference, joint with the Society for Ecological

Restoration-Northeast, Millersville, PA. Contact John Munro, (610) 287-0671.

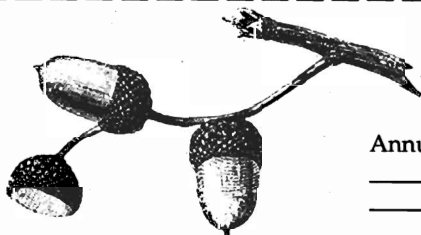
July 8-13 1995 Animal Behavior Society Meeting, symposium on *Behavior and Conservation in the Wild*, Lincoln, Nebraska. Contact John A. Byers, ABS Program Officer, Dept. Biol. Sci., University of Idaho, Moscow, ID 83844-3051.

July 30-Aug. 3 *The Transdisciplinary Nature of Ecology*, the 80th Annual Meeting of the Ecological Society of America, Snowbird, Utah. Contact Jill Baron, ESA Program Chair, National Biological Service, Natural Resource Ecology Laboratory, Colorado State University, Fort Collins, CO 80523; (303) 491-1968; jill@nrel.colostate.edu

August 5-6 *3rd Annual Organization of Fish and Wildlife Information Managers Meeting*, Fayetteville, Arkansas. Papers will focus on ecosystem management, survey applications/protocols/procedures, species information systems, metadata, data ownership, emerging and existing standards, and/or partnerships. Contact Tom Wilcox, Virginia Department of Game and Inland Fisheries, 4010 West Broad Street, Richmond, VA 23230-1104; (804) 367-0909.

August 6-9 *Celebrate, Anticipate, Innovate: 50 More Years of Partnerships*, the 50th Annual Meeting of the Soil and Water Conservation Society, Des Moines, Iowa. Contact Tim Kautza, SWCS, 7515 NE Ankeny Road, Ankeny, IA 50021; (800) 843-7645, ext. 12.

August 6-10 *Annual Meeting of the International Society for Ecological Modeling—North American Chapter*, San Diego, CA. Contact Anthony W. King, ISEM-NA Program Chair, Environmental Sciences Sciences Division, Building 1000, MS 6335, Oak Ridge National Laboratory, P. O. Box 2008, Oak Ridge, TN 37831-6335; (615) 576-3436; awk@ornl.gov



√ Please include me as a member of the
Rhode Island Natural History Survey, Inc.

Annual dues (check one):

_____ Individual (\$20) _____ Institutional (\$50)
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RINHS is a nonprofit 501(c)(3) organization. Dues in excess of \$6 (for annual subscription to the newsletter & Directory) and contributions are tax deductible to the full extent allowed by law.

August 11-15 *9th International Conference on The State of the Art of Ecological Modeling*, Beijing, China. Contact: Jianguo Wu, Biological Sciences Center, Desert Research Institute, University of Nevada, P. O. Box 60220, Reno, NV 89506; (702) 673-7419; jwu@maxey.dri.edu

September 14-16 *Taking a Broader View*, the 1995 Annual Meeting of the Society for Ecological Restoration, Seattle, Washington. Contact SER Conference Registration, 1207 Seminole Highway, Madison, WI 53711; (608) 262-9547.

November 6-8, 1995 *Northeast ARC/INFO Users GIS Conference*. Doubletree Hotel, Newport, RI. The biggest GIS conference in New England with numerous contributions on conservation and biodiversity. For more information, contact Chuck LaBash at (401) 792-5406 or email NEARC95@edcserv.edc.uri.edu

November 16-17 *Environmental Enhancement Through Agriculture*, Boston, Massachusetts. Organized by Tufts University, Center for Agriculture, Food and Environment, American Farmland Trust, Henry A. Wallace Institute for Alternative Agriculture. The focus will be on positive agriculture-environment interactions. Contact William Lockeretz, School of Nutrition, Tufts University, Medford, MA 02155.

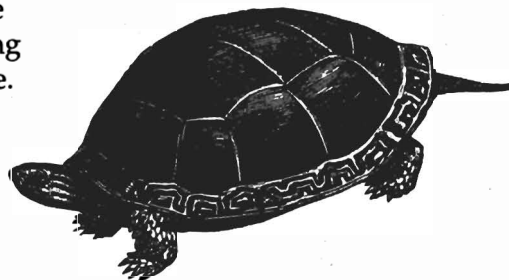
January 21-25, 1996 *3rd International Conference/ Workshop on Integrating GIS and Environmental Modeling*, Santa Fe, New Mexico. Contact National Center for Geographic Information and Analysis, Phelps Hall, 3510, University of California, Santa Barbara, CA 93106-4060; (805) 893-8224; santa_fe@ncgia.ucsb.edu

We Get By With A Little Help From Our Friends

There is always more to do at the RINHS office than there are hours in the day! So we are very grateful to the people who have helped us in a variety of tasks. Thanks are due to Missy Engelhard of the URI Department of Botany, who prepared slides for talks about RINHS; to Mark, Meg, and Hannah Gould, who helped prepare bulk mailings; to URI work-study student Deanna Griffin, who has spent the semester setting up databases for RINHS publications work; and to the staff at the URI Cooperative Extension Education Center, for their daily support and good cheer.

Natural History Paraphernalia Wanted

The Rhode Island Natural History Survey and URI Cooperative Extension's Learning Landscape are in need of natural history materials for display and study. Especially needed are vertebrate skulls and bones, teeth, skins, and mounted specimens, as well as items such as nests, feathers, turtle shells, and any other animal or plant materials which might stimulate interest in the study of natural history. Please call the RINHS office at (401) 792-5800 if you have something to donate.



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