

NATURAL HERITAGE HARMONIES



WINTER 2004

A publication of the Nongame and Natural Heritage Program

Vermont Department of Fish & Wildlife
Agency of Natural Resources

Conserving Vermont's fish, wildlife, and plants and their habitats for the people of Vermont.

Four Historic Species Found

Four plant species that have not been observed in Vermont in at least 25 years were found this summer, thanks to keen observation by a few individuals. The pinxter-flower, the blunt mountain-mint, the slender copperleaf, and a dwarf birch are the four historic plant species rediscovered as part of Vermont's landscape.

"Vermont has about 2,000 species of plants, but only about 1,400 of these are native to the state,"

said Bob Popp, Vermont Fish & Wildlife Department (VFWD) botanist. "The department's Nongame & Natural Heritage Program tracks all the uncommon and rare native plant species and attempts to rediscover historic species. A species is considered

historic if it has not been observed here in 25 or more years."

Bob Popp discovered one of these historic species, the pinxter-flower, in an Addison County swamp during a softwood swamp inventory. Pinxter-flower (*Rhododendron perichlymenoides*) is a



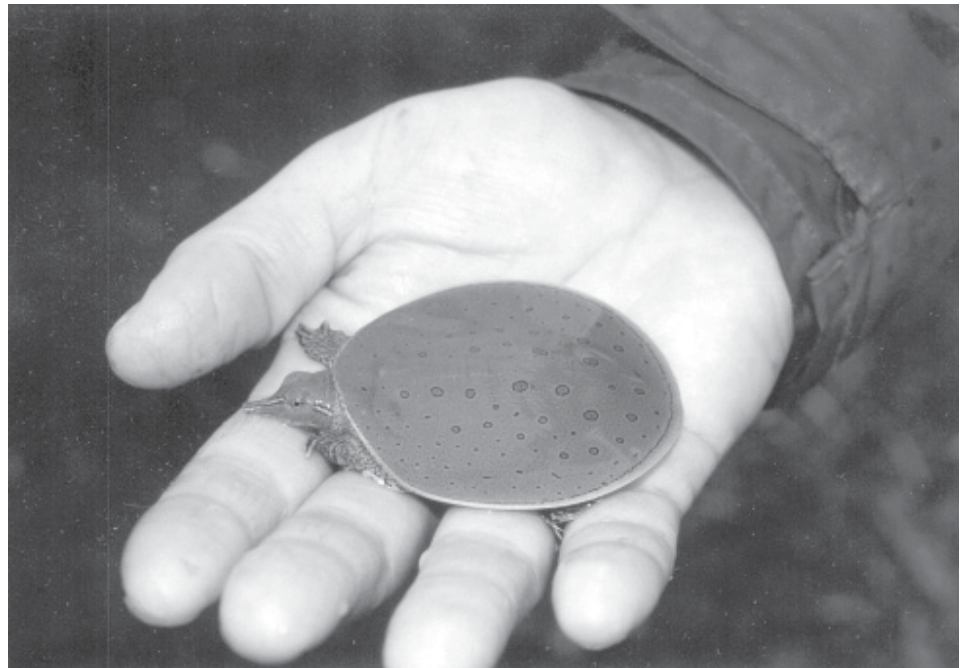
blunt mountain-mint

Continued on page 4

Inside Highlights

Department Update	2
Natural Community Mapping on State Lands	3
Got Wildlife?	6

Troubling Times for a Few Turtles



Spiny Softshell Turtle / photo by Lawrence Pyne

Turtles are a pretty successful group of animals that outlasted the dinosaurs, but the present day world presents challenges that threaten their well being and even their existence. Habitat destruction, road mortality, egg predation, and collection by people are some of the more obvious threats they face. Vermont is not immune to this and the Vermont Fish & Wildlife Department did something important about it in 2003.

Allegations surfaced of someone in Vermont illegally trading turtles over the Internet. Vermont game wardens gathered evidence on the allegations and determined turtles were being collected, traded, and sold. The investigation lasted several months and involved several wardens, including Dan Swainbank, Phil

Howland (retired), Travis Buttle, and George Scribner, as well as Lieutenants Dane Hathaway and Ken Denton.

In Vermont, it is illegal to collect wild turtles. To acquire a turtle from out of state, even from a legal source, an importation permit is required. In the spring of 2003, game wardens seized 20 turtles and charged the individual with possession of turtles under Title 10, Section 4709 of Vermont's State Statutes. Mark Ferguson, our department zoologist, was there with the wardens to provide expertise in identifying the turtles.

"Native turtle species —snapping, painted, musk, map, wood, spotted, and spiny softshell— are prohibited

Continued on page 2

DEPARTMENT UPDATE

By Tom Decker, Director of Wildlife

This past summer and fall department staff submitted grant proposals that allowed Vermont to participate in two large federal funding initiatives. With the first program, State Wildlife Grants (SWG), the department secured approximately \$1.2 million in federal funding for fish and wildlife conservation. Under this program, the federal funds cover 75 percent of the projects' costs, while the department provides 25 percent in matching monies.

This grant will fund a broad array of department work such as inventorying selected natural communities and species, like mussels and lake sturgeon, assisting local community planning, upgrading databases, and helping fund Vermont's ongoing bird and butterfly atlases. The department also will support research at the University of Vermont on cormorants and Indiana bats.

The second program is the Landowner Incentive Program (LIP). This program is a private lands initiative that pays landowners to manage their property for threatened or endangered species. One very important element of the Landowner Incentive Program is

that it allows for plant conservation programs.

The department will be hiring several new staff

specialists in temporary jobs to help accomplish the work under both of these grants. This will allow the department to capitalize on significant federal funding and move us ahead in wildlife conservation. It is sometimes frustrating trying to get enough resources and personnel to tackle the broad array of conservation needs that we face in Vermont. Securing SWG and LIP funding is a step in the right direction.

In March of 1936, the *Vermont Conservation News* made its debut. It was a "little news pamphlet" of the newly created Department of Conservation and Development. One of the objectives of this publication was to keep the public informed of the activities of "Vermont Fish and Game." This February, the department will begin publishing a biannual newsletter that we will use to get information out to folks regarding new research and management initiatives. We decided to borrow a little from our predecessors and entitled this new publication *Fish & Wildlife Conservation News*. The first edition highlights the many projects that are funded with the State Wildlife Grants Program. If you are interested in receiving a copy of *Fish & Wildlife Conservation News* contact Lilla Lumbra at (802) 241-1454 or email lil.lumbra@anr.state.vt.us. These are challenging times for the department and we remain grateful for your interest and support in helping us in the conservation of Vermont's fish and wildlife resources.

Turtles in Trouble

Continued from page 1

from the legal pet trade in Vermont," explained Ferguson. "Spotted turtles are endangered in Vermont and softshells are threatened. There is regional conservation concern for wood turtles, and musk and map turtles are of special concern in Vermont."

Turtles lay few eggs, usually 4 to 20 at a time, although a big snapper could lay more. And, the eggs are very susceptible to predation. Some predators, such as raccoons, are at high population densities due to their tolerance and adaptability to the human-dominated landscape. A very small percentage of eggs result in an adult turtle. Turtles survive largely because adults can live a long time, anywhere from 10 to 50 years. Therefore, if you remove older turtles, the population could decline.

A total of 20 turtles were seized during the investigation. The seizure included wood turtles, spotted and Blanding's turtles, a painted turtle, a snapper, a red-eared slider and three exotic turtles —Herman's tortoise, Mexican giant musk turtle, and yellow-margined box turtle. Blanding's turtles are found in surrounding states and Québec, but we have not documented a population in Vermont. Sliders are found further south in the U.S.

So, what do you do with 20 turtles that are seized as state's evidence? That is where department biologists stepped up. Mark Ferguson took possession of the exotic species and the department's Nongame & Natural Heritage Program coordinator Steve Parren took the rest.

"I have been working with wood and spotted turtles for years and created outdoor pens for the turtles at my home," explained Parren. "Mark set up similar accommodations for the turtles at his home. We fed the turtles daily and made sure they had clean

Continued on page 5





Natural Community Mapping on State Lands

When you think of the Vermont Fish & Wildlife Department's Nongame and Natural Heritage Program, you probably think of our work with rare, threatened and endangered species, such as turtles, falcons, loons, mussels, and plants. In addition to documenting and conserving individual rare species, we also collect a lot of information on species assemblages, or communities. These natural communities—interacting assemblages of plants, animals and other organisms, and their physical environments—are important components of Vermont's biological heritage. And, they are valuable conservation tools. While we can't manage for the sustainability of all of our native species on an individual basis, we can be relatively sure Vermont's biological diversity is maintained if we protect enough examples of each of the types of natural communities native to the state.

Significant examples of natural communities on state lands have been identified since the inception of the Natural Heritage Program in the 1980's. These include rare community types, such as fens and alpine meadows, as well as high quality examples of common types, such as northern hardwood forests. With the hiring of a state lands ecologist in 2001, and the use of computerized mapping techniques, we have undertaken a systematic mapping effort for all state lands. Each time Agency of Natural Resources staff crafts a new management plan for a

parcel of state land, a detailed ecological assessment is conducted. A key part of this assessment is the natural community map, which is used by foresters, biologists and planners to establish land use practices for the parcel. For instance, when we find rare community types during an inventory, the area around them may receive special protection in the new management plan.

“To date, we have created natural community maps for 21 state lands parcels, a total of 138,000 acres ... This is more than a third of all the state lands acreage.”

“To date, we have created natural community maps for 21 state lands parcels, a total of 138,000 acres,” explained Leif Richardson, Vermont Fish & Wildlife Department state lands ecologist. “This is more than a third of all the state lands acreage.”

Examples of lands that now have maps include Mount Mansfield State Forest, Willoughby State Forest, Camel's Hump State Park, Green River Reservoir State Park, Niquette Bay State Park, West Mountain Wildlife Management Area, Maquam Bay Wildlife Management Area, and Roaring Brook Wildlife Management Area. We will soon complete work on ecological assessments for C.C. Putnam State Forest, Groton State Forest, and Tinmouth Channel Wildlife Management Area.

How are these inventories done? First, we assemble all the existing information about the parcel's topography, bedrock and soils, wildlife habitats, rare or endangered species, forestry values, and recreational development. These information sources aid us in interpreting natural communities from black and white and color infrared aerial photographs. The resulting preliminary map is like a forestry stand map, as it relies heavily on the characteristics of the canopy tree species visible in the photographs.

We then identify areas of the parcel most in need of site visits to confirm community types, and we hit the field! During field visits to sites, numerous field notes, photographs, plant specimens, and global positioning system (GPS) data are collected. These are later analyzed and used to fine-tune the initial map. The final product is a geographic information system (GIS) map showing natural communities for the entire parcel, plus plenty of ecological and spatial information about each community.

Not surprisingly, we have made a number of noteworthy ecological finds on state lands! Many examples of rare community types have been identified, including a red cedar woodland at Niquette Bay State Park, a black spruce swamp at Green River Reservoir State Park and several new

Continued on page 4

Mapping *Continued from page 3*

red maple-black gum swamps at Roaring Brook Wildlife Management Area. Excellent examples of some of Vermont's most common upland communities—red oak-northern hardwood forest, northern hardwood forest, montane spruce-fir forest, and others—have been identified at Coolidge State Forest, Camel's Hump State Park and Willoughby State Forest. And, natural community inventories have turned up many new populations of rare plant and animal species around the state. For example, while inventorying the acidic outcrop communities of Townshend State Forest, we located a new population of Greene's rush (*Juncus greenei*), one of only seven known in the state. And auricled twayblade (*Listera auriculata*), a globally uncommon and state-endangered orchid previously known from only one site in Vermont, was found at two additional sites during the inventory of West Mountain Wildlife Management Area.

"Inventorying natural communities at State Forests, State Parks and Wildlife Management Areas has greatly increased our understanding of the ecology of these public lands," said Richardson. "And, it has improved our ability to responsibly manage them."

If you would like to know more about natural community mapping on state lands, please contact Leif Richardson, state lands ecologist, by email: leif.richardson@anr.state.vt.us or call (802) 476-0128. If you would like to

learn more about Vermont's natural communities, pick up a copy of *Wetland, Woodland, Wildland: A Guide to the Natural Communities of Vermont*, by Elizabeth Thompson and Eric Sorenson

Historic Plants

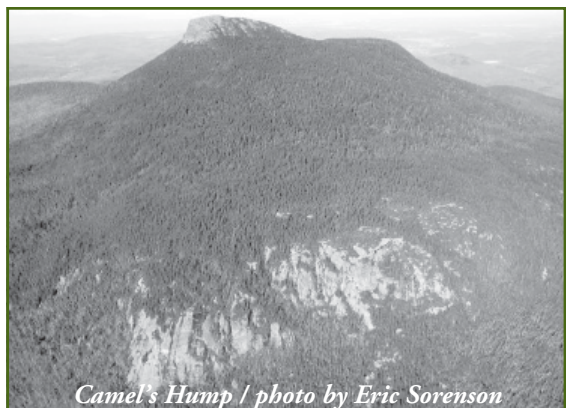
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small colonial shrub related to azaleas and laurels that grows mainly in swamps and bogs. Vermont is at the extreme northern limit of its range. Two collections exist from Vermont, one from 1981 and the other from 1965. It has not been seen since then until it was located this past summer.

Blunt mountain-mint (*Pycnanthemum muticum*) was reported to the department's Nongame & Natural Heritage Program by a consultant in conjunction with a power line upgrade. This small rhizomatous mint occurs in meadows and other open areas, and like the pinxter-flower, is more common to our south. This species was last observed in the state in 1922. This summer, however, two new populations of this rare plant were discovered.

A member of the Scientific Advisory Group on Flora rediscovered slender copperleaf (*Acabypa gracilens*) in the Burlington area. This small annual herb of the spurge family was last observed in Vermont in 1931. It prefers open, sandy soils, and is distinctive in having separate male and female flowers. Although not common in Vermont, it becomes more abundant to our south and west.

A dwarf birch from an alpine area in Vermont has tentatively been identified as either *Betula pumila* or *B. minor*. Discovered by Everett Marshall, VFWD biologist and data manager while hiking with his kids. Either of these species would be a great find. Both species are small shrubs, rather than trees, that occur in more northern and boreal habitats.



Camel's Hump / photo by Eric Sorenson



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The former was last observed in 1914 whereas the latter is reported from Vermont, but no specimen has ever been located. Depending on final determination of species, this may even represent a new species in our flora.

"There are currently a whopping 75 historic plant species in Vermont," explained Popp. "Since Vermont has been fairly well inventoried over the years, it is pretty exciting news when four historic species are found in a single year!"

Turtles *Continued from page 2*

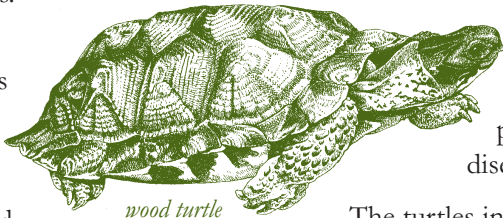
water sources and hiding shelters. I also provided nesting substrate for the adult turtles, and three wood turtles laid eggs.”

In September permission was granted to release the wood turtles.

The adult wood turtles were considered healthy enough to release in what we believe was their native stream. All had gained weight. One large male, nicknamed Gonzo by Steve’s kids, was fitted with a radio tag and we will continue to follow his movements into 2004.

The spotted and Blanding’s turtles showed signs of a respiratory problem, which is all too common with the stress experienced by traded turtles. Several turtles were injected with antibiotics, a procedure not relished by the turtles or Steve Parren, and then moved indoors.

“I’m happy to report all the spotted



and Blanding’s turtles were nursed back to health and now live at the Ecomuseum in Montréal,” stated Parren. “These turtles could not be released because we did not know their origin and we didn’t want to risk infecting wild populations with disease.”

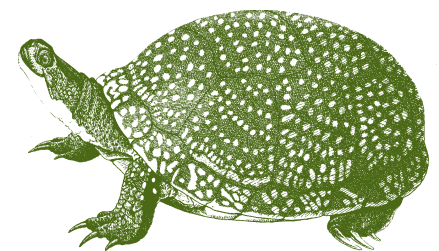
The turtles in Mark’s care will also remain in captivity. End of story, right? Wrong. Remember those three nests in Steve’s backyard? Steve is now the proud parent of 19 wood turtle hatchlings. He will keep them active and feeding through the winter and release them in the spring.

According to Parren, “These turtles will have a better chance of survival than many hatchlings. Their survival is still very iffy, but some may survive to adulthood. It is one of the few benefits in this whole story for the turtles.”

Another benefit is the awareness raised thanks to the actions of our game wardens.

“The law enforcement action is still pending,” stated Lt. Colonel Bob Rooks, the department’s chief warden. “We hope we will get a conviction and set a clear conservation example in our state. We’d also like to recover our expenditures, which were considerable when you include the many hours devoted to this case.”

If you want to learn more about the risks to Vermont’s native turtles be sure to check out Vermont Public Television’s Outdoor Journal series, which will be airing a story about the turtles on February 17th and 22nd. Turtle populations will have a better chance of surviving if more people know of the risks turtles face, less turtles are collected and critical habitat is protected. So help us spread the word.



Our Partners in 2003

The Vermont Fish & Wildlife Department's Nongame and Natural Heritage Program works cooperatively with many individuals, groups, companies, organizations, and agencies.

Agencies:

Green Mountain National Forest
Missisquoi National Wildlife Refuge
Northeast Endangered Species and Wildlife Diversity Technical Committee
Silvio O. Conte National Fish & Wildlife Refuge
Société de la faune et des parcs du Québec
U.S. Environmental Protection Agency
U.S. Fish & Wildlife Service (Lake Champlain Office and N.H. Endangered Species Office)
U.S.D.A. Wildlife Services
U.S.D.A. Natural Resource Conservation Service
U.S.G.S. Cooperative Fish & Wildlife Research Unit
Vermont Department of Environmental Conservation
Vermont Department of Forests, Parks & Recreation
Vermont League of Cities and Towns
Vermont Military Department
Vermont Regional Planning Commissions

Organizations:

Audubon Vermont
Central Vermont Public Service
Green Mountain Power
Lake Champlain Land Trust
National Wildlife Federation
NatureServe
New England Wildflower Society
The Nature Conservancy – Vermont Field Office
University of Vermont
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Nongame and Natural Heritage Program

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Please donate to the Nongame Wildlife Fund on your Vermont income tax form. Look for the loon icon.



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Forty-two animal species in Vermont are at risk. You can help by supporting the Nongame Wildlife Fund. Just look for the loon on line 29A of your Vermont income tax form.


The fund sponsors projects such as loon nesting sites, spiny softshell turtle recovery, peregrine falcon restoration, and a wide range of educational and habitat restoration programs.


Remember, your support helps us do the work today so our wildlife will be here tomorrow.


Got Wildlife?

Many plants are important food sources for wildlife. Here are just a few native food plants and some of the common backyard birds and mammals that enjoy them.

 **Dogwood:** *Bluebird, Cardinal, Catbird, Purple Finch, Evening Grosbeak, Pine Grosbeak, Robin, Cedar Waxwing, Chipmunk, Grey Squirrel, Rabbit*

 **Blackberry:** *Cardinal, Catbird, Pine Grosbeak, Robin, Cedar Waxwing, Chipmunk, Rabbit, Raccoon*

 **Cherry:** *Catbird, Purple Finch, Evening Grosbeak, Robin, Cedar Waxwing, Chipmunk, Rabbit, Red Squirrel*

 **Sumac:** *Bluebird, Cardinal, Catbird, Robin, Rabbit*

