

# NATURAL HERITAGE HARMONIES



SUMMER 2003

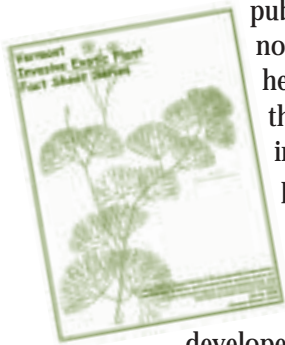
A publication of the Nongame and Natural Heritage Program

Vermont Department of Fish & Wildlife  
Agency of Natural Resources

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

## Two New Booklets for Safer Gardening

For centuries, people have introduced plants intentionally and accidentally from their native regions to new habitats around the world. Of the thousands of species introduced, the aggressive and invasive growth habits of some exotic plants have seriously impacted natural habitats. Two



publications are now available to help combat the threat from invasive exotic plants.

The *Vermont Invasive Exotic Fact Sheet Series*,

developed by the

Agency of Natural Resources and The Nature Conservancy, will help Vermonters better understand the existing and potential invasive exotic plant problems in Vermont. The series includes the 32 state-quarantined plant species. These species were quarantined because of their invasiveness and risk to crops, livestock, land and the environment.

This fact sheet series is an excellent reference for anyone interested in plants or gardening. Each fact sheet includes an illustration of the invasive

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## Citizen Scientist Volunteers Key to Vermont Breeding Bird Atlas Project



*American Goldfinch/John Hall, Vermont Fish & Wildlife Department*

One-sixth of Vermont's total land base is about to be surveyed as part of a major updating of the Vermont Breeding Bird Atlas. Beginning this spring and summer, almost 300 volunteers will take to Vermont's countryside to being a five-year project of gathering information about birds breeding in Vermont.

The Vermont Breeding Bird Atlas (VBBA) is a comprehensive statewide bird mapping project. It is directed by the Vermont Institute of Natural Science (VINS) and financially supported by the Vermont Fish and Wildlife Department's State Wildlife Grant Program.

The atlas documents the nesting status and location of every bird species breeding in the state. The first atlas, based on information collected

between 1977 and 1981, was published in 1985 and was the first such atlas published in North America. Now, 25 years later, it is time to update this important information.

"This project has many benefits," said Steve Parren, Nongame and Natural Heritage Program director. "We will see how changes in Vermont's landscape during the last twenty-five years have affected breeding bird distribution and numbers. We have the opportunity to identify important breeding areas for birds and maybe find other rare bird species. Also, the information gathered will be useful in developing management plans, prioritizing areas for conservation and providing a benchmark for future atlases."

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# DEPARTMENT UPDATE

**By Tom Decker,  
Director of Wildlife**

As you can see by reading this issue of *Harmonies*, the Fish and Wildlife Department continues to manage a wide range of projects to benefit Vermont's wildlife. As part of our Federal Aid program requirements for state wildlife grants, the department is just beginning a new planning process to develop a comprehensive conservation plan for wildlife in Vermont. This will be an important effort over the next two years and will be meaningful in directing future department efforts. This grant program began in 1991. We have been fortunate to secure funds through this program each year. Examples of work we have done under this program include funding contributions toward a bird and butterfly atlas, research work on the Indiana bat, and Working for Wildlife projects. The department has more than 27 different Working for Wildlife projects in all, involving a variety of activities.

The department also is partnering with the National Wildlife Foundation to work with Vermont Senator James Jeffords to secure \$100,000 for bald eagle recovery work. While nesting populations of eagles have been identified in surrounding states, we have yet to establish a nesting population in Vermont. This project should get underway in earnest early next year. This a great example of groups cooperating to achieve conservation goals in Vermont.

## Natural Heritage News

**By Steve Parren, NNHP Coordinator**

Warmer weather signals the start of another busy field season for the Vermont Fish & Wildlife Department personnel involved in the many projects of the Nongame and Natural Heritage Program (NNHP). As we, together with our contractors, partners and volunteers, venture out to the field to gather more information about Vermont's diverse animal and plant life, we thought it would be a good time to update you on a few of our ongoing projects.

### Plants

Two new locations for the rare **Massachusetts fern** were discovered in 2002 while inventorying the state's hardwood swamps. Both populations are extremely large, consisting of well over 1,000 clumps.

Three new populations of the state endangered **many-leaved sedge** were discovered in 2002. A population found the previous year was fully inventoried and estimated to consist of 10,000 culms. This new information has led to the proposal to completely remove this species from the state's Endangered and Threatened Species List.

The biggest single find of the year occurred after following a lead discovered in old herbarium records dating back to 1929. Based on information on a specimen label found in Harvard's Gray Herbarium, a group of botanists from the state's Scientific Advisory Committee on Flora relocated a remote site in the Northeast Kingdom that was home to several rare and endangered species. Not only were we able to rediscover populations of the state endangered **bentgrass** and the rare **Scirpus-like**

**sedge**, but we found new populations of both the state endangered **Buxbaum's sedge** and the rare **hyssop-leaved fleabane**. The cold, seepy, limy ledges and cliffs of this site provides good habitat for these species.

A deer-proof enclosure for the state's lone population of **northern wild comfrey** was erected. After visiting populations of this species on a nearby New York island in Lake Champlain, we surmised deer browse was leading to a decline and lack of flowering in the Vermont plants. We installed an eight-foot high fence around a portion of the population in 2001. The following year, there were significantly more and larger plants inside the enclosure than out.

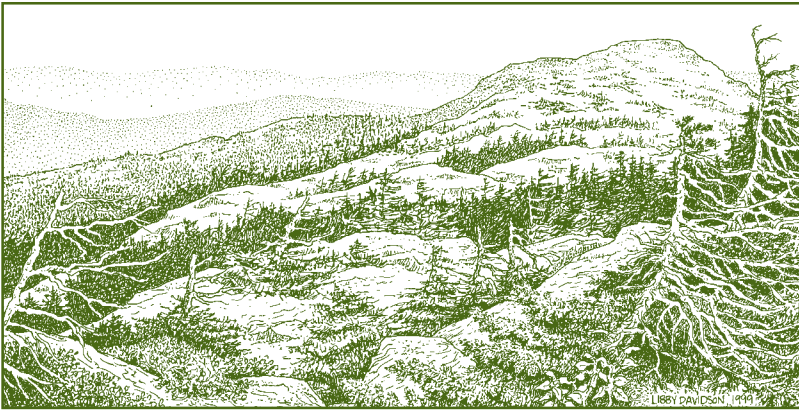
With help from a great group of volunteers enlisted by the New England Wildflower Society, we removed woody vegetation that was shading and growing over the state's only population of **prairie redroot**. This small shrub more typically grows in the mid-west, but tolerates some of our sandy soils of the Champlain Valley. Most of the competing plants removed were two of our most aggressive exotics—European and Glossy Buckthorns.

### Natural Communities

Inventories for hardwood swamps and limestone bluff cedar-pine forests are finished and the reports are in the final stages of completion. The wetland bioassessment project—a



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regarding wildlife habitat, rare species, and recreation values. Natural communities are ranked based on how frequently

techniques under review.

### *Beetles, Mussels and Fish*

Populations of the state threatened **cobblestone tiger beetle** have been monitored since this species was discovered on the Connecticut River in 1984. Surveys over the years have revealed populations on the White, West, and Winooski rivers. The trend for this species seems to be stable, with the population appearing to be maintaining itself.

The **brook floater**, a state threatened mussel found in the West River, may be experiencing a decline in numbers. Two sites on the West River were monitored in 2002 and initial results suggest the densities may be lower than those determined from previous monitoring efforts.

Survey efforts in 2001 found live **elktoe** in the Lamoille River, which is the only known location of this endangered mussel. Observations at several sites on the Winooski River found no evidence of this mussel.

Future survey efforts on other Lake Champlain rivers and large creeks may reveal other elktoe populations.

A new monitoring site for the endangered

**dwarf wedgemussel** was established at Lunenburg in 2002. Scuba gear is used to access deeper waters. Mussel surveys have historically been conducted by snorkeling and wading in shallow waters. The use of scuba gear improved access to significant habitat that was not accessible by snorkeling.

The endangered **lake sturgeon**, a primitive-looking fish with a shark-like tail, has been documented in three river systems flowing into Lake Champlain. Sampling of historic spawning sites began in 1998. Between 1998 and 2001 biologists captured and tagged ten lake sturgeon

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project to identify characteristics of vernal pools and northern white cedar swamps that could be used as ecological integrity indicators—is also complete. The reports for these projects will be sent to participating landowners as soon as they are complete. New statewide natural community projects are underway for montane spruce-fir forests and conifer-dominated swamps.

Mapping and ground inventories continue on state-owned lands. We will use the information to develop management plans for the Groton, Camel's Hump, and Putnam State Forests, as well as for the Tinmouth Channel and The Narrows Wildlife Management Areas.

Two “hands-on” natural communities mapping workshops were held this spring for natural resource professionals and members of Vermont Family Forest. The department is working with Vermont Family Forest and 30 landowners to map natural communities on 44 parcels totaling over 7,000 acres. The natural community maps will be information the landowners can use in making long-term management decisions.

Revising and updating the current ranking system for natural communities is set to begin. In Vermont, natural communities are recognized as one of the primary tools for describing and mapping state lands. They also are a tool used for making land-management decisions

they occur and the total area the community type occupies. Natural communities also are ranked based on an assessment of the size, the current condition of the natural community, and the condition of the surrounding landscape. The new ranking system will “fine-tune” the current system by improving objectivity in the ranking process. New York, New Hampshire and Maine have similar projects underway, giving us the chance to develop more consistent natural community ranking specifications across state lines.

### *Frogs and Salamanders*

The small **western chorus frog**, has parallel stripes running the length of its back, and is a state endangered species. In 1999, two males were located in northwestern Vermont for the first time since the mid-1980's. Although none have been located in the past two years, efforts continue to locate populations in Vermont.

Investigations of capture techniques for the **mudpuppy** salamander will hopefully lead to a better understanding of this rare species' distribution, age structure and genetics. Found in the major tributaries of Lake Champlain and the Connecticut River as well as larger lakes draining into them, this salamander is very difficult to locate. Dive surveys, winter trapping and angler surveys are a few of the capture



established at Lunenburg in 2002.

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from the Winooski River and eight from the Lamoille River. Sampling on the Missisquoi River began in 2001 but no lake sturgeon were captured.

### **Birds, Bats and Turtles**

Long-term management efforts have led to the proposed removal of the **osprey** from the threatened and endangered species list. In 2002, there was a record 55 nest attempts, with 39 pairs successfully nesting. Sixty-eight fledglings survived. A young bird that flies from the nest is known as a fledgling.

Vermont's **common loon** breeding population continued to increase in 2002 as well. Statewide monitoring of loons by our partner, the Vermont Institute of Natural Science (VINS), found 47 known and 11 potential territorial loon pairs, which resulted in a record high 39 nesting pairs. Thirty-four nests were successful, with 53 eggs hatched and 40 chicks surviving through August.

The **peregrine falcon** project also had a successful year. In 2002, thirty pairs were observed. Fifteen pairs nested successfully, and 40 chicks fledged. This long-term project, a collaborative effort by the department, the National Wildlife Federation (NWF) and VINS, has paid off. The success of this project over the years has prompted the proposed downlisting of the peregrine falcon from endangered to threatened.

Grassland birds, however, have displayed a decline in Vermont and throughout their ranges during recent years. The **grasshopper sparrow** has been added as a state-threatened species. The threatened **upland sandpiper** numbers have declined to a level where it has been proposed to uplist this species to endangered status. In 1991, surveys for this

species found 126 birds at 47 sites, compared to 28 birds at 15 sites in a 1999 survey. In 2002, the survey focused on 14 locations where the species had been previously located. Thirty-five birds were found at eight sites.

Monitoring efforts by our partner Vermont Audubon found the nesting success of the state endangered **common tern** has not been encouraging. Although the 25 fledglings in 2002 are greater than the 14 birds fledged in 2001, it is less than the 111 fledglings observed in 2000. Predation by owls and black crowned night herons is suspected.

Conservation measures have been implemented to improve fledgling success. They include managing gull and cormorant nesting, ant predation and providing chick shelters.

The department is also assisting the University of Vermont in researching the impact of cormorants on nesting habitats and other colonial nesting birds.



Trend surveys for the state endangered **spruce grouse** continued this spring. Surveys are conducted every third year and this spring 33 birds were detected.

Compared with previous surveys, the trend for this species appears to be stable.

In March 2003, Vermont's largest known bat hibernaculum was surveyed for hibernating bats. This was the first survey of this cave since the discovery of new passages in the cave. Over 23,000 bats were counted. The majority of the bat species observed were the **little brown bat**, however, 16 federally endangered **Indiana bats** were recorded. The Nature Conservancy, owner of the cave site, and the Vermont Fish & Wildlife Department will be working together

to construct a new bat gate at the cave entrance. A cave management plan will also be developed.

Monitoring efforts continued for certain turtle species. Nearly 100 nests of several species of turtles were detected at one site in 2002. Predation activity by raccoons helped biologist locate the nests. Thirty-eight **spiny softshell turtle** nests were detected. Three trapping efforts were initiated to protect the nests from predation. Approximately 68 percent of the nests had some successful emergence of young turtles.

### **State Recovery Plans**

We also are participating in drafting state recovery plans for a variety of threatened and endangered animals, invertebrates, plant species, and natural communities. Species with recovery plans under development include the cobblestone tiger beetle and beach-dune tiger beetle, native mussels, channel and eastern sand darters, spiny softshell turtles, bats, grassland birds, spruce grouse, and bald eagle. Natural communities restoration plans include, sandbar sandplains, clayplains forests, and alpine recovery. We are researching the state's bryophytes (mosses and liverworts) as well as implementing parts of conservation plans drafted by the New England Plant Conservation Program for regionally rare plant groups.

The past year was busy and this year will likely be just as busy, if not more. The generosity and support of people like you, caring and committed to Vermont's natural heritage, has helped provide the financial resources we need to continue our work. Thanks to all of you who have donated to the Nongame Wildlife Fund, either through your state income tax form, direct donations, purchasing a Conservation license plate, or making a contribution while purchasing a hunting or fishing license.

**You make a difference.**

# Citizen Scientist Volunteers

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“The project also raises public awareness of birds, their habitat needs and their conservation,” added Parren. “It’s a great citizen science project because it lets someone, who may not be a professional in the study of birds, but who has an interest, collect information important for conservation. Without the many volunteers, a project this huge just wouldn’t be possible.”

Volunteers collect bird breeding information by surveying specific areas known as blocks. Each block is approximately ten miles square. There are a total of 1,104 blocks statewide, however only a portion of them will be surveyed. “Priority blocks” are areas that were surveyed in the first atlas and the ones that must be surveyed again so the information can be compared.

Atlas participants are assigned one or more blocks, the number assigned depending on how much time they can commit during the five-year survey period and their skill at identifying birds. Surveying occurs when most species in the state are breeding, typically from May 15 through August 1.

The participant’s job is to find as many bird species as possible and find evidence of breeding for as many of these species as possible. This usually means finding at least 75 different bird species and confirming breeding of at least 50 of these species for each block. On average, complete coverage of a block takes about 30 hours or more of fieldwork. But since it is a five-year project, the time can be spread out over two or more years.

Organizers of this atlas are hoping to

collect information on not only which species are present but also how many of each. This abundance information would be valuable in bird conservation planning. It will help identify areas that may be important to a species, as indicated by high densities, and areas where a species is scarce.

According to Roz Renfrew, VINS’s Vermont Breeding Bird Atlas director, “Anyone with an interest in birds can volunteer. You need good bird identification skills or a strong

commitment to developing them, a willingness to devote some time, and persistence.”

“Volunteering for the atlas can be challenging,”

said Everett Marshall, a VBBA volunteer. “Standing in the middle of Moose Bog trying to identify birds by their song while being swarmed by black flies is not for the faint of heart. But the atlas project occurs only every 25 years, so it’s a rare opportunity to participate in an important conservation effort. Besides, it gives me a chance to get out and explore. It’s a great excuse to have a really good time.”

In addition to the hundreds of volunteers, the VBBA is also getting assistance from Audubon Vermont, UVM’s School of Natural Resources, the National Wildlife Federation, local



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Vermont Audubon chapters, and the Vermont Leadership Center. If you are interested in volunteering or want to learn more, visit the VBBA website at <http://www.uvm.edu/~vbba>.

**Got Wildlife?**

Try these three easy ways to improve your backyard for wildlife.

- Retire your mower, let grasses and wildflowers grow.
- Leave vines and brush, they provide natural food and cover.
- Forget cutting down that dead tree, it may save a squirrel’s home and provide a meal for a woodpecker.

**And please remember to give to the Nongame Wildlife Fund. Your support makes a difference!**

## Nongame and Natural Heritage Program

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## Safer Gardening

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exotic plant and provides the plant description, habitat preference, environmental threats, distribution, and control options. The publication also gives the reader some tips on what they can do to help with the invasive exotic plant problem.

The second publication is the updated *Sources of Native Plant Materials* developed by the Department of Environmental Conservation (DEC) Wetlands Program.

The new edition features an updated listing of native plant nurseries in Vermont, planting guides for various plant communities, and the new Vermont Department of Agriculture, Food & Markets quarantine rule

and designated noxious weeds.

Erin Haney of the Wetlands Program and Cathy Kashanski from the Water Quality Division collaborated with Everett Marshall and Bob Popp of the Vermont Fish & Wildlife Department's Nongame and Natural Heritage Program (NNHP) in placing the appropriate and most available native species in the planting guides.

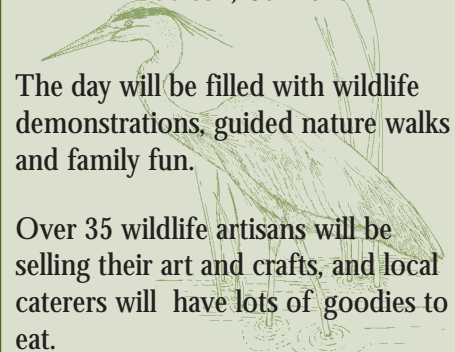
The new version of *Sources of Native Plant Materials* will be available in July. If you are in a hurry to plant, copies of the first edition are available from DEC or NNHP at the Waterbury Office or by contacting Erin at (802) 241-3773. Copies of the *Vermont Invasive Exotic Fact Sheet Series* are available by calling the Vermont Fish & Wildlife Department at (802) 241-1454. Together, these two publications will provide gardening enthusiasts the information they need to plant great gardens and still protect our natural communities.

Come Celebrate Wildlife...

## Dead Creek Wildlife Day

**Saturday, October 4, 2003**  
**9:30 a.m. to 4:30 p.m.**

**Dead Creek Wildlife Management Area**  
**Addison, Vermont**



The day will be filled with wildlife demonstrations, guided nature walks and family fun.

Over 35 wildlife artisans will be selling their art and crafts, and local caterers will have lots of goodies to eat.

**Dead Creek Wildlife Day** offers something for everyone. Come enjoy the day!

**For more information call (802) 241-3700 or visit our web site [www.vtfishandwildlife.com](http://www.vtfishandwildlife.com)**