

NATURAL HERITAGE HARMONIES



SUMMER 2006

A publication of the Nongame and Natural Heritage Program

Vermont Fish & Wildlife Department
Agency of Natural Resources

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

There's a New Cat in Town

Vermont's Conservation License Plate will have a different look this fall, with the launching of the new "Catamount" plate. The plate's design features a cougar along side mountainous lakeshore, and like the original peregrine plate, its goal is to raise awareness and funds for nongame wildlife and watersheds.



"The peregrine plate was first introduced in 1997 and has generated over \$1.5 million, which has helped support the Nongame Wildlife Fund and the Watershed Grants Program," said Fish & Wildlife Commissioner Wayne Laroche. "We felt it was time for something new and hope it will spark more interest in the plate."

The fee for the Conservation Plate is \$20.00 annually in addition to the fee for vehicle registration. The fee for the plate is allocated to three funds. On initial registrations, \$10 goes to the Department of Motor Vehicles (DMV), and \$10 is equally divided between the Nongame Wildlife Fund and the Watershed Management Fund.

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Keeping Bears and People Safe



Bird feeders, barbecue grills, garbage, and dirty campsites are appealing but potentially deadly food sources for black bears.

Many Vermonters would be thrilled to see a black bear. But having one on their back porch is too close.

Black bears are found in most forested portions of Vermont. They generally rely on wild foods such as berries, cherries, beechnuts, and acorns to survive. However, bears can become attracted to other foods such as birdseed, garbage and pet food.

Early spring is when game wardens get most of the calls about nuisance bears. Black bears are emerging from their winter dens and looking for their first meal in several months. Bears often eat seeds in the wild, so a birdfeeder chock full of high-energy seed is a concentrated source of what a bear considers natural food.

Bears also can turn up around homes later in the summer, especially if choke cherries, raspberries and blackberries are scarce.

"Our calls on nuisance bears have slowed down now that the berries are out," said Col. Robert Rooks, head of the department's game wardens. "This year we had fewer complaints about bears, responding to 58 calls compared to 159 in 2005. Hopefully people are listening and removing any food sources that may tempt the bears."

Bird feeders, barbecue grills, garbage, and dirty campsites are appealing food sources. They also are deadly. Bears seeking out these food sources could be struck by a motor vehicle in a populated area, illegally shot, or

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DEPARTMENT UPDATE

By the time you read this, the Vermont Fish and Wildlife Department will have hosted its 2nd Wildlife Congress (September 9th) at which attention was directed to implementing the State's Wildlife Action Plan. The goal of the Action Plan is to conserve Vermont's wildlife before species become so rare that it is expensive or impossible to save them. The Wildlife Congress will provide an annual forum for substantive partner engagement on management, research, and monitoring accomplishments and priorities for the future. With the Action Plan to guide us, I am excited about advancing our conservation mission to new sectors, achieving new levels of success and working even more closely with our partners.

One emerging success story concerns the northern long-eared bat, a mammal species listed in need of conservation action in Vermont's Wildlife Action Plan. The State Wildlife Grants program has been funding bat inventories, and we are learning that this species may be more abundant than previously presumed. The *new* dollars, in support of *new* inventories, have enabled us to compile *new* information about the distribution and abundance of the long-eared bat which, in time, could lead to its removal from the list of Species of Greatest Conservation Need.

More information will be forthcoming about opportunities to submit projects for consideration of funding with the next round of State Wildlife Grant dollars—to date, more than \$3.5 million dollars have been obligated to Vermont for conservation actions that fit with the direction of the Action Plan.

Ronald J. Regan

Ron Regan
Director of Wildlife

See Vermont's Wildlife Action Plan at
www.vtfishandwildlife.com/SWG_CWCS.cfm



Nongame and Natural Heritage News

Summer is ending and our field work will begin winding down as well. Seems like a good time catch up on what's happening with some of the over 40 Vermont Fish & Wildlife Department Nongame and Natural Heritage Program's (NNHP) projects.

Plants

A population of **ram's head lady slipper** was rediscovered thanks to help from an interested Vermonter who observed this rare species in the late 1940s. The ram's head lady-slipper is a member of the Orchid family and is listed as state threatened. It usually grows in habitats of limy woods and swamps in Vermont. We located the population and we're happy to report it is doing well.

We recently transplanted some state threatened **beach pea** from a site it was sharing with the state endangered **beach heather** to a nearby site managed by Winooski Valley Park District where beach pea was not growing very well. The beach pea had to be moved because it was overrunning the beach heather. The move appears to be a good one because the beach pea is doing well in its new location.



Beach pea

Seeds collected last fall from **pitch pine** trees growing at the Sandbar Wildlife Management Area (WMA) in Milton were taken to The Nature Conservancy's nursery in Whitehall, NY and planted, and the results were surprising. Bob Popp, Fish & Wildlife Department botanist and contractor Brett Engstrom were concerned about seed viability because of the condition of the pine cones. But they shouldn't have worried. The seeds successfully germinated and produced healthy young pitch pine seedlings. These seedlings will likely be transplanted to the Sandbar WMA to help restore sandplain forests to Chittenden County.

Turtles and Snakes

Steve Parren, Vermont Fish & Wildlife's NNHP coordinator, worked with railroad companies to create 13 nesting patches for the state-endangered spotted turtles. A land protection conservation project to protect a portion of the turtles' red maple swamp habitat and an associated vernal pool is also underway.

Meanwhile, Steve has set up his backyard pen to care for a **spotted turtle** found on the streets of Lyndonville. Vermont's known spotted turtle population is found in southern Vermont. The population is estimated at around 20. How the turtle ended up in Lyndonville is unclear,

but it was likely in captivity. Spotted turtles are small, attractive and rare in Vermont, which makes them appealing for collecting. But collecting and keeping spotted turtles is not only illegal in Vermont without an endangered species permit, but it also threatens the survival of the turtle population (see Turtles at Risk). Because the turtle is an adult and its origin is unknown, Steve will not introduce it to Vermont's spotted turtle population. He will instead keep his new backyard guest for a few weeks and then transport it to the Ecomuseum in Montreal.

Three years of active searches and radio tracking of the state-threatened **eastern racer** in south eastern Vermont have revealed some interesting results. Vermont's racer population appears to be very small. Seven adult snakes were located and marked. One snake died last year when run over on a logging road and a large adult was run over two towns to the north, suggesting a second population exists in that area.

However, no young snakes have been found. Plans are underway to create egg laying habitat to help improve recruitment. Habitat improvements also are planned for the nearby Wildlife Management Area based on the project's findings, and steps are being taken to secure the snakes' safety. A road on a state-owned WMA will be moved because it is too close to the snakes' den. Moving the road will

reduce the risk of snakes being run over by vehicles.

The project to monitor eastern racer movements and habitat is a collaborative effort between Vermont Fish & Wildlife and the Vermont Agency of Transportation (VTrans). Jim Andrews, a herpetologist from Middlebury College, is the contractor overseeing the snake monitoring.

Bats and Birds

VT Fish & Wildlife and VTrans are also working together to identify potential impacts of transportation projects on the state and federally endangered **Indiana bat**. Contractors for VTrans are conducting Indiana bat surveys at several project sites to determine if the species is present. In addition, VT Fish & Wildlife and VTrans conducted a survey of bats at the Cornwall-Salisbury covered bridge that is proposed for renovations in 2007. The survey was conducted to determine if any of the bats using the bridge were Indiana bats. Staff from both agencies closed off the bridge, placed harp traps at each end, and captured the bats as they attempted to emerge from the bridge. By the end of the evening survey, biologists captured 92 little brown bats, mostly reproducing females. VTrans and VT Fish & Wildlife will coordinate on the renovation plans and work schedule to minimize impacts to the bat colony.

VT Fish & Wildlife's long-term research and monitoring of a Middlebury maternity colony of more than 250 Indiana bats has yielded some interesting findings about bat colonies. While the colony of more than 250 Indiana bats has been present at the site since it was discovered in 2001, monitoring efforts in 2005 raised questions about whether some of the bats had relocated to another site.

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Turtles at Risk

While it is rare that anyone would intentionally harm turtles, the cumulative effect of our activities does have a negative impact.



Although it is illegal to collect turtles in Vermont, people do remove them from the wild. This can result in population decline and loss. Turtles live a long time, but egg and hatchling survival is extremely low. Survival of adult turtles is important to maintaining their populations because they will produce the few offspring that will carry the population into the future.

Turtles often appeal to people as pets since most are relatively small, quiet and eat less than more traditional pets. But turtles do poorly in captivity without sufficient sunlight, a balanced, natural diet and the correct temperature range. Without proper care, the turtle often dies or becomes deformed.

Some people mistakenly let captive turtles go, thinking they will survive. Transplanted turtles, however, are at an extreme disadvantage. The new location may already have an established population with limited resource or the habitat may not be suitable.

Turtles already face long odds of survival because of habitat loss to development and dangerous traffic. So the next time you come across a turtle, take a photo and leave the turtle in the wild.

You Can Help - Volunteers are needed to help clean up two turtle nesting beaches on Lake Champlain. The date is **Saturday, October 28.**

For more details contact Steve Parren 802.241.3289 (steve.parren@state.vt.us) or Eric Lazarus 802.658.8505 (ericlazarus@verizon.net).



Staff from VTrans and Fish & Wildlife set up harp nets at the ends of the Cornwall-Salisbury covered bridge to capture bats as they emerged.

CHRIS SLESAR

Nongame News

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To see if this was the case, bat biologists from VT Fish & Wildlife, NY Department of Environmental Conservation and the US Fish and Wildlife Service returned to the New York mine where the Middlebury bats hibernate and captured four Indiana bats that had been previously captured and banded at the Middlebury colony site. The bats were fitted with radio transmitters and tracked back to their colony site. Three of the four returned to the same roosting trees in Middlebury. One bat, however, migrated to Shoreham and used the same roost trees used by Indiana bats located in Shoreham in 2002! Why this Indiana bat once captured in Middlebury has apparently relocated to another maternity colony more than eight miles away is unclear. But the answers to this mystery could help our understanding of the dynamics of Indiana bat maternity colonies.

Common loon numbers appear to be holding steady. This species was removed from the state's Endangered and Threatened Species List in April 2005, but monitoring continues. In 2005, the number of Vermont's loon nesting and territorial pairs increased to a record high with 53 attempted nests. Of the 53 pairs that attempted nesting, 47 successfully hatched 68 eggs, with 57 chicks, or 84 percent, surviving through August. There were 60 known and 12 additional potential territorial pairs,

and seven new breeding pairs were identified.

The 2006 breeding season is winding down, and the preliminary numbers are similar to the 2005 season. There were 55 confirmed nests, of which 41 successfully produced 62 chicks. Fifty-eight (58) chicks were still alive as of early August.

Peregrine falcons were also delisted in 2005 and are monitored to keep tabs on their progress. There was a record high of 32 territorial pairs in 2005, surpassing 2002's previous record of 30 pairs. New territories were established at Checkerberry

Ledge in Bakersfield, Hazen's Notch in Lowell, and Highgate Cliffs in Highgate Springs. Twenty-six of the 32 pairs nested, and 23 pairs fledged a record total of 61 young.

Six sites fledged four young each. Seventeen nestlings were banded at a total of six sites.

Young peregrines banded in previous years are showing up in neighboring states. A male falcon banded in 2003 at Fairlee Palisades in Fairlee, VT was seen with a female early in the 2005 breeding season in Holyoke, MA. Another falcon banded in 2003 at Hawk Rock in Newark, VT was seen perched on a church steeple in Lewiston, ME in September 2005. A juvenile banded in 2005 at Deer Leap in Bristol was caught at a banding station at the Dead Creek Wildlife Management Area in Addison, VT in October 2005.

Early numbers for the 2006 season indicate that 34 falcon pairs returned to nest sites with 28 of those pairs

attempting to nest. The tally thus far is that 19 of these nesting attempts were successful, producing 45 chicks.

Vermont's **common tern** breeding population is found primarily on two islands in Lake Champlain.

Monitoring the population began in 1980, with

intensive monitoring and management efforts initiated in 1987 when survey data showed a decline in the number of breeding adults. This species was legally listed as state endangered in 1989. Population surveys continue today, conducted by our contractor Mark LaBarr of Vermont Audubon.

Fledgling numbers fluctuate from year to year. Fledgling success is impacted by predation from great horned owls, ants and other birds, as well as from nest desertion and abandonment by adult terns. In 2005, there were 33 fledglings compared to 107 in 2004, 77 in 2003 and 25 in 2002. Conservation efforts to improve fledgling success include managing the number of gulls nesting on the islands used by the common terns, controlling ant predation and providing chick shelters.

The third year of a four-year study by VT Fish & Wildlife to investigate the potential impacts of a proposed wind turbine development on the bird breeding community of East Mountain in East Haven wrapped up its field work in mid-July. **Bicknell's Thrush**, a rare and at-risk species in Vermont, is a special focus of this investigation. Vermont Institute of Natural Science (VINS) has been contracted to conduct this study. This season their field biologists concentrated their activities on East Mountain and Mt. Mansfield, a long-term VINS study site.

Efforts in 2006 focused on mist-netting and banding four bird species (Bicknell's and Swainson's thrushes, Blackpoll and Yellow-rumped warblers) so that mark-recapture



A juvenile peregrine falcon banded in 2005 at Deer Leap in Bristol was caught at a banding station at the Dead Creek Wildlife Management Area in Addison, VT in October 2005.



statistics could be applied to reveal and compare the distribution and composition of each species on the two peaks.

Preliminary results show 25 Bicknell's Thrushes were captured on East Mountain and 15 on Mt. Mansfield. Of these, four birds on East Mountain were returns from 2004 and/or 2005, while three Mt. Mansfield birds were returning individuals from previous years. A significant proportion of new bandings on each mountain consisted of yearling birds.

Although the study did not concentrate on nest monitoring in 2006, the nests of five species, including Bicknell's Thrush, were discovered on East Mountain. All nests successfully fledged. The high rate of fledging in 2006 was likely due to reduced predation by red squirrels, since their number were very low following the widespread poor production of balsam fir cones in 2005.

In April, a pair of **bald eagles** successfully hatched young in a nest they built last year on the Vermont side of the Connecticut River. This was the first pair to hatch young in Vermont in 60 years. Unfortunately the young eaglet did not survive.



JUDITH LOMBARDI, GOLDEN ACRES PHOTOGRAPHY

In April 2006, a pair of bald eagles successfully hatch a young eagle in a nest they built the previous year. This was first confirmed successful nesting in 60 years.

Losing eaglets in a first nesting attempt is not unusual, especially during inclement spring weather. The young birds are very vulnerable and unable to stay warm on their own. However, there is an excellent chance the pair bonded to the site and will return next year to try again. The department is working with conservation groups to protect the property where the eagles nested.

Meanwhile on the other side of the state, Vermont's **Bald Eagle Restoration Initiative** is in its third and final year of raising and releasing eagles from the hack site in Addison. Nineteen eagles were release in 2004 and 2005. Ten more were set free this season. Radio transmitters were attached to five of the birds to help track their movements following their release. Most of the birds stayed close to the hack tower, although "Eagle 106" did explore the surrounding area. A map of the eagles' travels can be found on the VT Fish & Wildlife website at: www.vtfishandwildlife.com/wildlife_eagle.cfm.

Raising awareness about eagles and other threatened and endangered species was an important goal of the eagle project. An "eagle box" was developed to help educators teach students of all ages about eagles and their place in Vermont. This great teaching tool is chock full of resources including books, videos, photos, eagle ecology, full scale silhouettes of bird of prey, plus dozens of suggested

interdisciplinary eagle-related activities to support a teacher's curriculum. The eagle box is available for loan by contacting Kathy Wohlfort at the National Wildlife Federation (802) 229-0605 or email: Wohlfort@nwf.org.

Natural Communities

With four seasons of field work completed, the statewide inventory of **softwood swamps** is now nearing completion. Softwood swamps are dominated by spruce, fir, tamarack, hemlock, and cedar and are distributed throughout Vermont. This EPA-funded inventory focuses on

identifying and studying the variability of these swamps so we can improve our natural community classification. The intent is also to identify some of the best examples of each swamp type to better inform conservation decisions. Most of these swamps are privately owned, and landowners have been very generous in granting permission for site visits. A final report on this project is expected to be complete this winter.

Montane Spruce-Fir Forest is the dominant or "matrix" forest type in Vermont at elevations above 2,500 feet. A statewide inventory of this montane forest has been funded by a State Wildlife Grant and will result in a detailed map of the natural community type statewide. The study will also give us a much better understanding of the community's plant species composition and variability, as well as the value of the wildlife habitat it provides. Most of this forest type occurs along the spine of the Green Mountains and is publicly owned. A final report on this project is also expected to be completed this winter.

Grant applications were submitted for several new projects, including a statewide inventory of **Dwarf Shrub Bogs** and **Poor Fens** and mapping and assessment of the quality and wildlife habitat value of large forest blocks dominated by **oak forests** in Vermont. Another potential project is a GIS assessment of the relative significance of unfragmented forest blocks statewide. Decisions on all three of these grant proposals are expected shortly.

Please call or e-mail Eric Sorenson with any questions about these projects or Vermont's natural communities in general. 802-241-3714 eric.sorenson@state.vt.us.

Lief Richardson, the department's state land ecologist is working with the Agency of Natural Resources' land stewardship teams in St. Johnsbury,

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Nongame News

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Barre, and Rutland to fine tune the land use classification for two large land holdings, the Coolidge West Management Unit and Groton Management Unit. Coolidge West Unit includes Coolidge State Forest, Plymbsbury WMA, and Tiny Pond WMA; while Groton Units includes Groton State Forest, Levi Pond WMA, and LR Jones State Forest, plus numerous smaller state parks within Groton State Forest.

The land stewardship team is working with the commissioners of Fish & Wildlife and Forests, Parks and Recreation to locate an appropriate site for a 500-acre unmanaged block of lowland spruce-fir forest in the Plymbsbury Basin of Coolidge West Management Unit. The natural community is over 2,000 acres at this site. However, there is much to

consider when designating a no-cut zone, including management history, existing recreational infrastructure, a desire to maintain and manage softwood plantations, historic resources, and management obligations of both departments. The team's goal is to arrive at a land classification solution that protects a portion of this important lowland spruce fir forest while allowing most historic and present uses. Draft versions of long range management plans for both management units will be released to the public for comment.

Work also continues on natural community inventorying and mapping of the Ascutney Management Unit (Ascutney State Park, Little Ascutney WMA, Skitchewaung WMA, Weathersfield WMA, Wilgus State Park), Brattleboro Management Unit (Molly Stark State Park, Fort Dummer State Park, Sweet Pond State Park, Dutton Pines State Park), and The

Narrows WMA. This information will be used in developing new long range management plans for these units.

Although the field work will slow down with cooler weather, our work to protect and conserve fish, wildlife, plants and habitats for Vermonters never does. The department's Nongame and Natural Heritage Program projects are often collaborative efforts with other agencies and organizations, whose help is essential. Similarly, we could not do what we do without the help and support from all of you who contribute to the Nongame Wildlife Fund. Whether it's by purchasing a Conservation License Plate, donating through the tax check-off, or donating directly, we appreciate your commitment to Vermont's wildlife and natural heritage. Thank you for helping us keep Vermont a special place to be.

Helping Vermont's Eastern Jacob's Ladder

Laura Hill, a University of Vermont graduate student, hopes her research will make a difference in conserving Vermont's population of Eastern Jacob's ladder (*Polemonium vanbruntiae*). Laura is working with the Vermont Fish & Wildlife Department and the U.S. Forest Service to conduct research on six Vermont populations of this globally threatened species.

"Volunteers for NNHP have been monitoring these populations for the past 10 plus years," explained Hill, "but inconsistencies in quantifying population size have led to complications in creat-

ing a consistent monitoring method. This is because Eastern Jacob's ladder can reproduce sexually, by flowers and fruits, as well as vegetatively, through underground rhizomes. This makes it difficult to determine what is an individual plant."

Laura also has determined that Eastern Jacob's ladder has the ability to self-fertilize, using its own pollen to set viable fruits and seeds.

"This is important ecologically because plants that have the capacity for 'selfing' do not rely on animal pollinators to move pollen among flowers," said Hill. "This may help population persistence, since some pollinators, such as native bee populations, are declining."

"On the other hand, self-fertilization can reduce genetic variation which may significantly effect a population's ability to persist when environmental

conditions are not ideal," added Hill.

Laura is doing genetic analysis of over 250 leaf samples from the six populations to determine the amount of vegetative growth and genetic variability in the populations.

She has also permanently tagged and flagged over 800 ramets (stems) to collect annual data on growth, survivorship, and reproduction in the field. This data will provide information on the plant's life-history, and provide a framework to conduct a population viability analysis (PVA).

PVA is a computer-based model that predicts future population growth and extinction risk. Ecological interactions, such as animal browsing, also can be incorporated into the PVA model to determine the effect on population dynamics. White-tailed deer commonly browse the

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USDA-NRCS PLANTS Database

New Cat in Town

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When the plates are renewed, DMV receives \$2 and the remaining \$18 is split between the two funds.

The **Nongame Wildlife Fund** helps support the Vermont Fish & Wildlife Department's work in protecting, monitoring, maintaining and where possible, improving the health of Vermont's fish and wildlife populations that are not hunted, fished or trapped. They account for more than 95 percent of the fish and wildlife in Vermont and provide economic and social benefits to all Vermonters. The funds are used for enhancing and conserving habitat, planning and implementing species recovery, and species monitoring through cooperative efforts with many organizations and researchers.

The Vermont **Watershed Grants Program** was created to support watershed projects that protect, restore or enhance Vermont's watershed resources. It fills a critical gap in statewide funding sources for watershed-based projects. These grants are vital for helping small start-up projects to get off the ground and for enabling local, community-based watershed projects to develop.

Funding is available for a wide range of protection, management or education projects including monitoring, outreach, land acquisition, recreational improvements, and pollution prevention. Grants are awarded to municipalities, local and regional governmental agencies, nonprofit organizations, and citizen groups. A total of 165 projects have received funding since the conservation plate program began. A list of the projects can be found by visiting www.vtwaterquality.org/lakes/docs/lp_watershedgrants.pdf.

The 1995 Vermont legislature passed the legislation creating the first Conservation Plate, and it became available for pleasure cars in 1997.

In 1997, the law was amended to include trucks weighing less than 8,099 pounds. In 2004, the truck weigh limit was increased 26,100 pounds. Since the program began, over 19,000 sets of conservation license plates have been issued. Currently, there are over 9,000 sets of plates actively registered and on Vermont highways.

"We are working with the DVM and the Department of Corrections to have the new plate ready by early October," said Laroche. "Both the peregrine and the catamount plate will be available, but once the peregrine plate inventory is gone, we plan to retire that design."

More information about the Conservation Plate and an application can be found on the Fish & Wildlife website: www.vtfishandwildlife.com. Simply click on the "GoWild" license plate on the home page.



VTDEC

Water quality monitoring by local watershed groups is one of the many projects supported by Conservation License Plate sales.

Keeping Bears Safe

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they may have to be destroyed. When a bear is being fed, either intentionally or unintentionally, its life expectancy is cut by as much as one-half.

Black bears are normally shy and not aggressive to humans. However, a bear that has been fed by humans loses this shyness and can become a potential danger. When this occurs, there is often little recourse except to destroy the bear.

"We are asking people to help keep our bears wild by not feeding birds from April through late October," explained Rooks. "Also, don't leave pet food outside, wash down your barbecues when done, and secure your garbage containers. And above all, never purposely leave food out for bears. Feeding bears may seem kind, but it is almost a sure death sentence for them."

If a bear is causing damage on your property, please contact the nearest Fish & Wildlife office or local game warden. Fish & Wildlife personnel will recommend appropriate preventive measures or control strategies that can lessen the problem.



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Your Support Makes a Difference!

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

Jacob's Ladder

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flowers and fruits of this plant and create a shift to primarily vegetative reproduction.

Laura will use a PVA model to determine how deer browsing is affecting the population.

“Previous research has shown that excluding deer has significantly improved plant reproduction, growth, and opportunities for expansion in herbaceous forest species,” explained Hill. “I hope my research will reveal the most important ecological factors that affect these rare plant populations to help provide a scientific framework for a successful conservation plan.”

Eastern Jacob's Ladder

Status: state threatened

Eastern Jacob's ladder grows in a variety of wetland habitats in the eastern U.S. and Canada. In Vermont, it is found in the foothills nestled between the Champlain Valley and the Green Mountains. It grows in woodland and roadside seeps.

Noted threats to the species include habitat loss due to succession, road building and mowing, and deer browsing.



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Fishes of Vermont

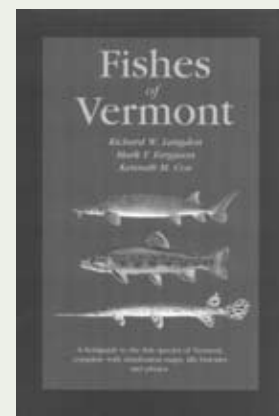
With 77 native (and 15 introduced) species, Vermont supports the greatest freshwater fish diversity in New England. The *Fishes of Vermont*: a field guide to the fish species of Vermont investigates the factors and forces that determine fish distribution. It also presents a Vermont-specific identification key, describes the life histories of all 92 species and maps their distribution-- features that fishermen, natural history buffs, conservationists and natural resource managers will all find useful.

Price is \$26.45 plus shipping.

Guide to the Wildlife Management Areas of Vermont is also available. Price is \$17.25 plus shipping.

Place your order today by calling 1-800-515-2475 or 1-802-864-7626. By mail to:

Vermont Fish & Wildlife, PO Box 2248, Williston, VT 05495



*“Publication of *Fishes of Vermont* does a great service for anglers, curious naturalists, scientists and anyone who asks, “What fish is that?” Steve Wright, NWF*