

NATURAL HERITAGE HARMONIES



WINTER 2005

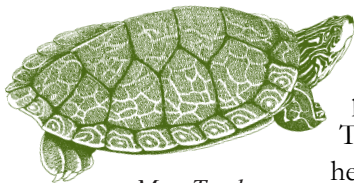
A publication of the Nongame and Natural Heritage Program

Vermont Fish & Wildlife Department
Agency of Natural Resources

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

Turtles Get A Helping Hand

Steve Parren has been monitoring the nesting activities of turtles at two beaches on Lake Champlain in his role as coordinator for the Vermont Fish & Wildlife Department's Nongame and Natural Heritage Program. The beaches are important nesting sites for map turtles, painted turtles, snapping turtles, and the State- threatened spiny softshell turtles. One of the beaches normally supports over 150 turtle nests. By monitoring nesting beaches, Steve can determine hatching success and sometimes he reduces the impact of predation. Potentially viable eggs are sometimes retrieved from nests



Map Turtle

that have been raided by predators. The eggs are held in captivity until

they hatch, and the hatchlings are later released once they become active. Live young also may be retrieved from nests that have openings where hatchlings emerged if the nests are found before predation has occurred.

Raccoons, skunks and foxes enjoy feasting on turtle eggs and young hatchlings. These predators are happy

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Partnering To Conserve Vermont's Landscape



Aerial view of Hospital Creek in Addison

Vermont's wildlife and rural landscape help define the state's character. However, pressure from poorly planned growth is impacting Vermont's wildlife and their habitats. According to a 1999 report by the U.S. Environmental Protection Agency, development consumed 6,500 acres of undeveloped land each year in Vermont between 1982 and 1992. The Agency of Natural Resources estimates approximately 20 acres of wetland are lost or degraded annually due to draining, filling and development. This is in addition to a loss of at least 35 percent since early settlement. Vermont's changing landscape may influence the long-term conservation of fish and wildlife because important habitats are lost, including deer wintering areas, black bear feeding habitats and habitats for

threatened and endangered species.

Reviewing permits for development to determine appropriate permit conditions is one way the Vermont Fish & Wildlife Department (VFWD) protects important habitats. We also have conserved thousands of acres through acquisitions and easements. The department first began purchasing important habitats in 1919 with the acquisition of 1,000 acres of wetlands in Milton. This purchase established the Sandbar Waterfowl refuge and became the forerunner of today's Wildlife Management Areas (WMAs). By the 1980s, the department had acquired over 80,000 acres.

Funding for these early purchases came from hunting and fishing license

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DEPARTMENT UPDATE

By Craig McLaughlin, Director of Wildlife

This winter, Vermont's Fish & Wildlife Department and its partners are celebrating an important milestone in wildlife conservation. This is the first time we have succeeded in restoring a previously imperiled species to secure standing, and we are poised to reclassify their legal status by removing protections of the State Endangered Species Rule. Not one, but three species of birds have met the strict biological criteria for this "delisting" action contained in state recovery plans, developed with the help of experts serving on Vermont's Endangered Species Committee.

Populations of peregrine falcons, ospreys, and common loons have all expanded in Vermont, and the Agency of Natural Resources is proposing to remove these previously endangered species from Vermont's Endangered and Threatened Species List.



All three species benefited from protection of habitat and active management of nesting structures under department-led programs, carried out with the assistance of partners including Vermont Institute of Natural Science, National Wildlife Federation, Vermont electric utility companies, private landowners and the public at large.

Peregrine falcons disappeared from the state in the mid-1900s when widespread use of pesticides led to reproductive failure. Fortunately, this species responded dramatically to restrictive regulation of pesticides, and to reintroductions of captive-bred peregrines led by the Fish & Wildlife Department. Recovery got underway in 1985, when the first post-reintroduction peregrine nest was documented in Vermont. The state's population has expanded over the past two decades, and an average of 27 nesting pairs has produced 40 young peregrines each year since 2000.

From 1975 to 1986, no nesting activity was uncovered during Vermont osprey surveys. This species started nesting again in the late 1980s. The Fish & Wildlife Department partnered with Vermont electric utility companies to erect artificial nesting structures, with dramatic results. Between 1999 and 2003, we've monitored an average of 37 osprey nests each year, producing an average of 70 fledglings annually.

Vermont's loon numbers dwindled to reach a low of 8 breeding pairs in 1983. The department worked with the Endangered Species Committee to develop a Common Loon Recovery

Plan in 1987, which set well-reasoned biological criteria for recovery of this charismatic species. Our criteria were reached in 2004, and the loon population continues to grow. We have attained a five-year average of at least 40 nesting pairs, producing at least one fledgling per pair, and loons now occur in two geographic regions of the state. The Fish & Wildlife Department is proud to share this success story with our partners, particularly the Vermont Institute of Natural Science, who we contracted to carry out much of the field program, and many private landowners that agreed to support management of loon nesting sites on their properties.

While Vermonters should be proud of these success stories, we must also recognize vigilance is needed to sustain their current levels of abundance. The department is crafting plans to direct our programs for monitoring and managing each of these species following delisting. Each plan will outline protocols for tracking populations and habitat conditions, guide proactive management actions, and contain criteria for returning legal protections of Endangered Species Rule in the unlikely event their numbers decline in the future. Our commitment to continued conservation programs will help to maintain an abundance of these fascinating birds for the enjoyment of future generations.

VTrans and Fish & Wildlife Working Together for Wildlife

If you have lived in Vermont for a while, you probably realize Vermont's roads are getting busier. During the past ten years, Vermont's population has grown 8.2 percent while at the same time the number of registered non-commercial vehicles has increased 24 percent. There are about 14,251 miles of roads in Vermont, and according to the Vermont Agency of Transportation (VTrans) the number of vehicle miles traveled by Vermonters is growing at a rate seven times greater than the state's population.

Vermont Fish & Wildlife Department (VFWD) biologists have long recognized that a road's environmental footprint extends far beyond the edge of its pavement. Every year cars, vans and trucks traveling on Vermont roads kill thousands of animals ranging from frogs to black bears. Collisions with large animals, such as deer or moose, present a real threat to human safety.

Road construction also directly impacts wildlife by affecting their movement, destroying or fragmenting habitat, affecting water quality, and replacing natural cover with impervious surfaces and invasive species. Small, inadequate, or poorly placed culverts create barriers to fish migration in streams and also can block passage of terrestrial wildlife that use stream sides as habitat and travel corridors.

VTrans also recognizes the impacts roads have on wildlife and is collaborating with VFWD in several ways to incorporate habitat connectivity and wildlife movement when planning and developing transportation projects in Vermont.

"One of our first efforts was the installation of a divided concrete underpass during the construction of the Circumferential Highway in Chittenden County," said John Austin,

VFWD biologist. "It was designed to accommodate stream passage on one side and wildlife movement on the other. It had limited success for a number of reasons, but it became a springboard for other collaborative efforts."

During the Bennington Bypass construction two bridges were extended well beyond the banks of the watercourses they span to accommodate wildlife movement. VFWD biologists identified these wildlife corridors and worked cooperatively with VTrans designers and engineers in developing the final bridge design. Other wildlife crossings are planned for future segments of this roadway.

VTrans also worked closely with VFWD and other state and federal regulatory agencies to develop a plan to improve wildlife movement, wildlife habitat, and habitat connectivity during the reconstruction of Route 78 in northwestern Vermont. The road bisects the Missisquoi National Wildlife Refuge and impacts a significant wildlife travel corridor. The plan includes building a 500-foot bridge to accommodate wildlife movement and improve ecological connectivity, moving the road away from the Missisquoi River to re-establish riparian habitat, and installing several large box culverts to provide passage ways for wetland furbearers, waterfowl, fish and other aquatic organisms.

"Perhaps our most exciting collaboration has been the creation of an inter-agency Wildlife Crossing Team," said Chris Slesar, environmental specialist for VTrans. "The team consists of a handful of trained VTrans employees from various sections of the agency and



several VFWD biologists who act as technical advisors. The team's goal is to collect long-term data on habitat and wildlife movement associated with transportation projects throughout the state."

Training for the VTrans team members was a collaborative effort involving VFWD biologists, Sue Morse of Keeping Track, Inc., and Jim Andrews of Middlebury College. Team members learned about the life history and habitat needs of several mammals, reptiles and amphibians and were exposed to a diversity of landscapes and habitat conditions for many wildlife species. Team members also were introduced to data collection methods they could use to develop a transportation and wildlife data collection protocol.

"The training sessions sparked enough interest among VTrans employees that we decided to continue to offer it to others in the agency," explained Slesar. "It has been a great tool in raising awareness about the importance of habitat connectivity in transportation planning. It's helping us recognize the impacts of what we do and the need to be good stewards."

The Wildlife Crossing Team's efforts are directed by an interagency steering committee. The steering committee has deployed the team to survey several sites around Vermont,

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Turtles *continued from page 1*

to share their space with people and have adapted very well to the human-dominated landscape of the area. The turtles prefer undisturbed beaches for nesting sites, which have become harder to find as more shoreline is developed. Turtle nesting is more concentrated on fewer beaches, making predation a greater threat to nesting success.



STEVE PARREN

Volunteers clearing turtle nesting beach.

The U.S. Department of Agriculture's Wildlife Services has partnered with the department to help protect the turtle nests by trapping and removing potential predators. Trapping along with a solar-powered electric fence encircling one of the beaches is reducing predation. Only six softshell nests were preyed upon in 2004 compared to 38 in the 2003 active nesting season, which generally lasts from June to October.

Audubon Vermont and 20 volunteers also pitched in to help the turtles by spending a weekend in late October clearing encroaching vegetation from the nesting beaches. The shale cobble beaches are naturally kept open and replenished with shale cobble by ice scour and wave action. But this doesn't happen at any one site often enough to keep the beaches clear each year. Manual clearing is needed to prevent the surrounding vegetation from overgrowing the nesting sites. Sometimes, especially in wet years, plant roots actually entomb the turtle eggs.

"Thanks to all the volunteers, a lot more beach will be available for nesting turtles in 2005," said Parren. "It was a fun time with so many conservation-minded people making the work go quickly."

The 2004 beach monitoring results for

nests found prior to predation showed 49 percent of softshell young from seven nests, and 63 percent of map turtle young from nine nests successfully emerged on their own. Twelve softshell hatchlings or eggs from three nests, and forty-three map turtle hatchlings from seven nests were retrieved. All but a few of the hatchlings were later released once they became active.

"The cool, wet summer probably influenced the incubation conditions of the nests," explained Parren. "Some of the nests had delayed, partial or failed emergence of hatchlings. I'll be taking care of one softshell and four map turtles this winter because they hatched too late to release last fall. They'll have a better chance of surviving by releasing them this spring and hopefully they will make it to maturity, maybe returning someday to nest on one of the beaches."

VTrans *continued from page 3*

including investigating the potential use of old cattle crossings under Interstates 91 and 89 as wildlife passages, and identifying areas along the spine of the Green Mountains associated with major road barriers that may be linkage areas for wildlife. These areas may be potential sites for future wildlife crossing structures.

VTrans and VFWD also are partnering to create a statewide Geographic Information System (GIS) database for wildlife crossings, habitat, road mortality and transportation information. The database will be used to identify significant wildlife linkage areas associated with highways and town roads and assist in future transportation planning.



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"By collaborating on the various projects, we greatly improve interagency coordination on transportation planning and environmental regulation as it relates to wildlife conservation," said Austin. "We gain a better understanding and appreciation of what each organization does and why we do it. Through cooperation we can make more effective and efficient transportation decisions and accomplish a great deal more for Vermont's environment, wildlife and human safety."

Partnering *continued from page 1*

sales, a federal excise tax on hunting and fishing equipment, the federal Land and Water Conservation Fund and the Vermont Duck Stamp Fund. Other funding sources also have been used to acquire land for WMAs including the Vermont Housing and Conservation Board, Ducks Unlimited, the North American Fish and Wildlife Foundation, and the North American Conservation Fund. Today, the department owns over 80 WMAs totaling more than 118,000 acres and conservation easements on over 92,000 acres.

Success in conserving important habitat often depends on organizations working together. In recent years, the scale, cost and complexity of acquiring land and conservation easements have become so great that it is difficult for one organization to accomplish alone. Several conservation organizations, other government agencies and individuals have partnered with the department and provided valuable assistance in acquiring lands for WMAs and conservation easements.

In Addison, a project to safeguard the lands around Whitney and Hospital Creeks involved several partners and resulted in the 157 acre Whitney/Hospital Creek WMA, and the conservation of over 1,800 acres of rich wildlife habitat and agricultural land.

Whitney/Hospital Creek WMA is a mix of emergent and scrub/shrub wetlands, old fields, an apple orchard and forest located next to Lake Champlain. Several natural communities can be found there, including cattail marsh, buttonbush swamp, deep emergent marsh, and deep bulrush marsh. Underlying this area is clay soil, providing the basis for the rare clayplain forest that connects the two creeks.

The lake's naturally fluctuating water level keeps the wetlands diverse, very productive, and capable of

supporting a variety of fish and wildlife. Warmwater fish species, such as northern pike and bullhead use the flooded lowlands in the spring for spawning. The creeks and surrounding uplands provide excellent habitat for waterfowl, marsh-dwelling birds, salamanders, frogs, turtles, and snakes, as well as a variety of mammals, such as white-tailed deer, beaver, mink, otter, and raccoon.

The area is important to wildlife because it is relatively secluded and undeveloped. It was the threat of potential development that prompted action, and it was partnerships that made it happen.

"I knew the area and its importance to wildlife," explained Bill Crenshaw, VFWD wildlife biologist.

"I contacted John Roe from The Nature Conservancy and he began

negotiating with the landowners interested in selling. Meanwhile, I spoke with the surrounding landowners, mostly farmers, letting them know we wanted to conserve the land and explaining the different ways it could be accomplished. We acquired the first parcel for the Whitney/Hospital Creek WMA in 1992 with funding from The Nature Conservancy, U.S. Fish and Wildlife Service, and the department's Duck Stamp Fund."

Over the next 13 years, more land around the creeks was conserved. Private contributors donated 217 acres in conservation easements to the department. An additional 1,430 acres of adjacent agricultural fields and upland buffers were protected by six farm conservation projects. The farm easements were spearheaded by

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Our Partners in 2004

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 Agency of Transportation
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
Outreach for Earth Stewardship
The Nature Conservancy – Vermont Field Office
University of Vermont
Vermont Butterfly Survey Steering Committee
Vermont Caver's Association
Vermont Chapters of the Ruffed Grouse Society
Vermont Coverts
Vermont Electric Power Company
Vermont Endangered Species Committee (ESC)
Vermont Entomological Society
Vermont ESC Scientific Advisory Groups
Vermont Family Forest
Vermont Institute of Natural Science
Vermont Land Trust
New England Plant Conservation Program Volunteers

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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.

Partnering *continued from page 5*

the Vermont Land Trust and the Vermont Agency of Agriculture, Foods & Markets, and funded by the Vermont Housing and Conservation Board.

“A significant aspect of this project was conservation easements that helped farmers protect their livelihood,” said Kate Willard, lands administration section chief for the Department of Forests, Parks and Recreation. “The conservation easements paid farmers for the development rights to their property. Some of the farmers then used the money to purchase land they had been leasing. If they hadn’t purchased the land, chances are it would have been lost to development.”

The Whitney/Hospital Creek WMA is a good example of how future conservation of important habitat for wildlife will depend upon partners.

“Having the resources of all of these

organizations working together toward the common goal of conserving the area made it possible for us to accomplish as much as we have,” said Crenshaw. “I don’t think one entity could have done it by themselves. But by partnering, everybody wins. We are preserving the rural landscape, giving farmers a way to continue farming, and protecting important wildlife habitat.”

Editor note: The Vermont Fish & Wildlife WMAs are managed to conserve fish, wildlife and their habitats, and provide people with opportunities to enjoy these resources through fish and wildlife based outdoor activities. Visit the department’s website at [www/vtfishandwildlife.com](http://www.vtfishandwildlife.com) and click on MAPS to learn more about the department’s WMAs.

Soaring to Success...

Vermont’s peregrine falcon has reached a major milestone on its way to recovery, thanks to donations to the **Nongame Wildlife Fund**.

Nongame Wildlife Fund donations helped support work to reintroduce young peregrines and protect and monitor nesting areas.

The successful reintroduction of this once endangered bird means Vermont may soon remove it from the state’s endangered species list.

Please remember to donate to the **Nongame Wildlife Fund** on line 29a of your Vermont income tax form.

Your support can make a difference.



Steven D. Faccio