

NATURAL HERITAGE HARMONIES



SPRING 2018

A publication of the Wildlife Diversity Program

Vermont Fish & Wildlife Department
Agency of Natural Resources

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

Vermont Conservation Design

A team of Vermont Fish & Wildlife Department ecologists is on a mission: a race against time to catalogue and conserve the biodiversity of Vermont's natural communities in the face of a changing climate.

Natural communities – groups of plants and animals and their physical environments, including soils and bedrock– will likely change in Vermont as the state's climate continues to warm. Indeed, climatologists predict that Vermont's climate will more closely resemble the current climate of points further south by the end of the 21st century, becoming somewhere between West Virginia and Tennessee based on global greenhouse gas emission rates.

Not knowing exactly how this will affect the composition of species found here in Vermont, ecologists are hedging their bets, ensuring that whatever changes may happen, Vermont will still have healthy, functioning ecosystems. One of the instrumental tools in this effort is the Vermont Conservation Design, a statewide effort to identify Vermont's natural features—forest blocks, surface waters and riparian areas, natural communities, and habitats—that are key to maintaining ecological function in Vermont.

Bob Zaino, one of the ecologists spearheading the effort for the department, compares Vermont

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Eastern Meadowlark



Alan Schmierer-Flickr/Creative Commons

Bobolink



Andrea Westmoreland-Flickr/Creative Commons

HOW YOU CAN HELP

Landowners who mow their fields for aesthetic reasons can maintain these fields and accommodate the nesting birds simply by cutting later in the summer, starting on August 1.

Saving Vermont's Grassland Birds

Grassland-nesting bird populations continue to remain at historically low levels in Vermont, including vesper sparrows, grasshopper sparrows, bobolinks, and eastern meadowlarks. Staff with the Vermont Fish & Wildlife Department are working to monitor these species with the help of many conservation partners and Vermont's landowners.

The history of grassland bird nesting during the past two centuries follows closely with changes in agricultural practices in North America. Grassland birds historically nested in beaver-created meadows in Vermont. When eastern forests were converted into pasture for sheep and cows, grassland birds began nesting in these newly created grassland habitats and their numbers increased.

As natural prairies in the midwestern and western states and provinces were plowed under to make way for corn and soy crops in the twentieth century, nesting grounds for these bird species were lost. Additionally, as eastern pastures began once again reverting to forests, this further reduced grassland bird habitat continent-wide and contributed to the birds' decline.

Grassland birds in Vermont face unique conservation challenges because the remaining habitat they depend on is now largely landowner-maintained agricultural hayfields. Vermont's remaining grassland habitat is mowed earlier and more frequently at the same time grassland species are in the height of their nesting season.

Additionally, old fields are being replaced with residential and commercial developments, including solar energy projects, which further removes available nesting sites for these birds. As a result, conservationists have been working closely with farmers and landowners to attempt to provide appropriate habitat for these species.

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Cover image: The Oxbow – a Dry Oak Woodland Natural Community
Photo courtesy of Charlie Hohn, wetlands specialist, VTDEC

“No one knows what Vermont will look like by the end of the century, but we’re working to maintain nature and the benefits it provides. With planning and commitment, expansive forests, clean air and water, and abundant fish and wildlife can be our legacy.”

— Bob Zaino, ecologist, VFWD



Stephen Goodhue - VDTM

Vermont Conservation Design

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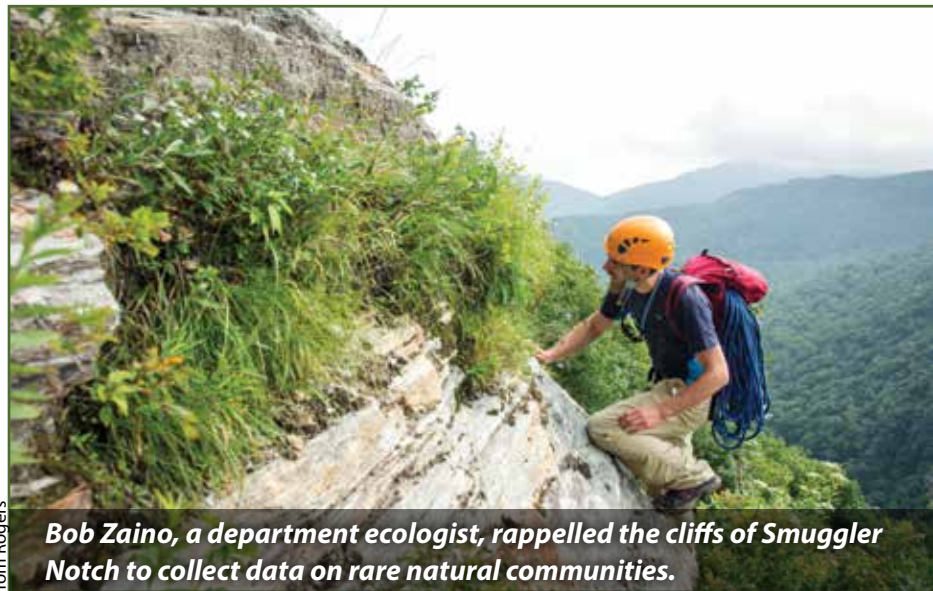
Conservation Design to maintaining a sports franchise. “Much as the individual players on the Red Sox may come and go, the team itself endures. We’re working to ensure that even if climate change causes individual species to migrate into or out of Vermont, our functioning ecosystem endures,” says Zaino. “This project is unique among states’ efforts to preserve biodiversity. It’s a real breakthrough for us, building on decades of work by department staff and our partners.”

Two other ecologists working on the project with Zaino, Eric Sorenson of Vermont Fish & Wildlife, and Liz Thompson of the Vermont Land Trust, began inventorying Vermont’s natural communities decades ago. The effort has taken the team from Vermont’s swampy lowlands to the islands of Lake Champlain to the summit of Mount Mansfield. Last summer, Zaino, an avid rock climber, even strapped on his climbing shoes and rappelled off the steep cliffs into the gullies of Smuggler’s Notch to collect data on rare natural communities.

Now compiled, all this information, along with information on other features like large forest blocks and bedrock and soils,

is being used to identify high-priority areas for conservation. Some of these high-priority lands may be purchased outright and permanently conserved, but Zaino and the team hope that Vermont Conservation Design will inspire communities and landowners to contribute to a larger vision of protecting ecological function.

“We can’t only plan for the future species by species, so Vermont Conservation Design is our way of covering all of our bases,” says Zaino. “No one knows what Vermont will look like by the end of the century, but we’re working to maintain nature and the benefits it provides. With planning and commitment, expansive forests, clean air and water, and abundant fish and wildlife can be our legacy.”



Tom Rogers

Bob Zaino, a department ecologist, rappelled the cliffs of Smuggler Notch to collect data on rare natural communities.

Vermont's Nongame Wildlife Fund – Conserving Our Natural Heri

By giving to the Nongame Wildlife Fund, you help protect the future of wild animals—everything from tiger beetles to lynx—and the leverages your donation to secure additional federal funds. One dollar to the Nongame Wildlife Fund can yield an additional two to th



VFWD

Alewife Floater is a filter-feeding mussel.

🔄 Improve Water Quality

Fish & Wildlife staff work to preserve the diversity of Vermont's mussel species, ensuring that these important filter feeders will continue to remain healthy and help clean up the state's waterways through their natural feeding mechanism.

🔄 Conserve Threatened and Endangered Species

Vermont Fish & Wildlife staff play a central role in protecting the state's T&E species, from working with the Endangered Species Committee to update the endangered species list or designate critical habitat, to protecting wildlife in the field from threats such as habitat destruction or nest depredation.



USFWS-Flickr/Creative Commons

Common Tern is a state endangered species.



Tom Rogers

Wildlife biologist Doug Blodgett captures a rattlesnake to monitor its health.

🔄 Monitor Wildlife Disease

Wildlife diseases are among the greatest threats to biodiversity, and reptiles and amphibians have suffered globally. Vermont is now a member of the Northeast Wildlife Disease Cooperative. Staff monitor snake fungal disease, now documented in Vermont, and we are preparing for other diseases that may arrive in the state.

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wild places of Vermont. Your annual donation is critical and much appreciated! Vermont Fish & Wildlife
ree dollars for conservation in Vermont. Here's how your gift helps:



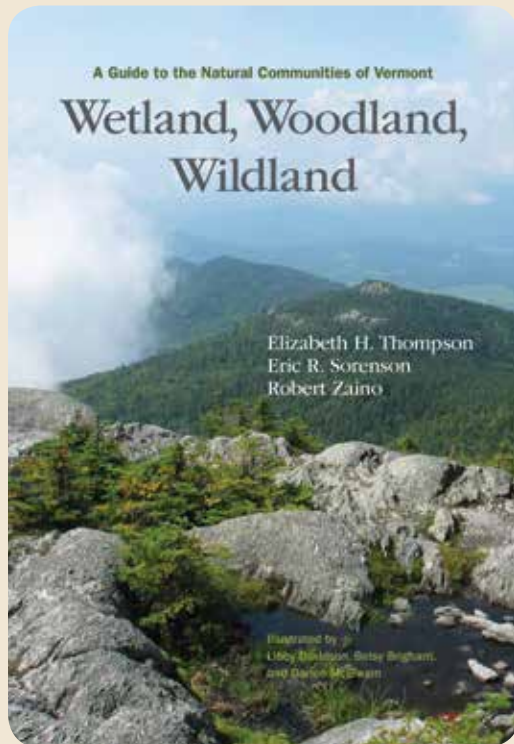
Monitor Monarchs ↪

Along with other Northeastern states, Vermont Fish & Wildlife is working to create a regional strategy to conserve monarchs and other pollinators, which are crucial to the health of forests and food crops. Vermont may be an essential stronghold for monarch habitat due to our old fields that harbor milkweed.



Monarch butterfly

Kenneth Dwayne Harrison



↻ Update *Wetland, Woodland, Wildland*

The seminal guidebook for Vermont's natural communities that is used by students and professionals alike is getting a makeover. *Wetland, Woodland, Wildland, 2nd Edition*, will be released in 2018, with new photos and updated information.

Hold Bat Trainings ↪

Vermont Fish & Wildlife staff run free trainings for private citizens and wildlife control operators and work with private landowners to conserve and enhance habitat for bats in their own back yards.



Alyssa Bennett, wildlife biologist, helps a landowner provide safe places for bats to roost by installing bat houses.

Tom Rogers

What's Lost is Found Again

A Vermont Fish & Wildlife Department botanist and his wife were out for a weekend hike at The Nature Conservancy's Raven Ridge Natural Area in Monkton in 2017 when they discovered a flowering plant that has not been seen in Vermont in decades and was thought to be extirpated (locally extinct).

Everett Marshall was hiking with his wife, Deb Parrella, when she noticed the small purple flowers of winged loosestrife (*Lythrum alatum*) while crossing a boardwalk through a wet meadow. Marshall's job with the Fish & Wildlife Department is to maintain the state's Natural Heritage Database, which keeps track of all the known locations of Vermont's rare, threatened, or endangered species and significant natural communities. Parrella is also a trained botanist.

The native winged loosestrife is closely related to purple loosestrife, which is native to Europe and Asia and is invasive in Vermont. A small number of winged loosestrife plants were last observed by a botanist in Middlebury in 1979. Prior to that there were only eight records of the plant in the state, the most recent occurring in 1933.



Tom Rogers



Tom Rogers

The loosestrife isn't the only plant species to reappear in Vermont in recent times. Alpine milk-vetch, last seen in Vermont in 1886, was also rediscovered in Barnet along the Connecticut River.

Invasive purple loosestrife (left) compared to native winged loosestrife (right).

Upon learning of the discovery of the rare loosestrife at Raven Ridge, Rose Paul, with The Nature Conservancy, said, "This highlights the importance of conserving land for biodiversity—you never know what the next exciting discovery might be!"

Together We Saved the Loon. Let's Not Stop Now!



Help Vermont's endangered wildlife by donating to the Nongame Wildlife Fund.

Look for the loon on line 29c of your Vermont income tax form or donate directly online at www.vtfishandwildlife.com



Sunset Lake and Pond Woods

Eric Sorenson

Welcome to the Dead Creek Visitor Center!

In fall 2017, the doors opened to the Department’s new Dead Creek Visitor Center in Addison, Vermont. The visitor center has already hosted numerous events and workshops, and the number of excited visitors has already surpassed our expectations.

“Dead Creek is a very popular destination for wildlife enthusiasts, and the new visitor center provides a helpful educational resource on everything from the geologic history of the Champlain Valley to the unique ecology and breadth of species found here,” said Amy Alfieri, manager of the Dead Creek WMA and visitor center. “Visitors now have a place where they can ask questions and interact with experts on a regular basis.”

The center is open on a limited basis with hours concentrated around times of year with high visitation, such as the fall bird migrations. Check the website, vtfishandwildlife.com for more information, and come for a visit soon!

Conserved Now and Forever

In 2017, the Department worked to permanently conserve lands to protect fish and wildlife habitat and provide lands for the public to enjoy. One of Vermont’s premiere wildlife hotspots, Dead Creek Wildlife Management Area, added 37 acres thanks to a donation from the nearby Dubois Farm. The Dead Creek area hosts more than 200 bird species, and birdwatchers have coveted access to this property for years due to the incredible diversity of species found in this rare and ecologically important clayplain forest.

Fifty acres of spectacular forested shoreline were added to the Pond Woods WMA in Benson in 2017. The property includes shoreline along Sunset Lake, known for its remarkably clear, clean water. The lake is an absolute treasure and is considered one of the prettiest lakes in Vermont. The land provides a great place to launch for a paddle to look for birds or go fishing, or just go for a walk to listen for and view wildlife. We’re excited that this special place will be permanently conserved for the people of Vermont to enjoy.

An amazing property adjacent to the Edward Kehoe Conservation Camp in Fair Haven that campers have been using for more than 50 years was recently purchased. The 281-acre property provides campers hands-on experience with wetland creatures, fish in Bullhead Pond. They also see rare snakes in the old slate quarry and learn about the variety of forest types found in the area. Trails on the property lead to a spectacular view of the surrounding Taconic Mountains.

Tom Rogers





Wildlife Diversity Program

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Your Support Makes a Difference!

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Volunteer Spotlight – Rodney Olsen

Bird-lovers were treated to hands-on bird banding demonstrations at the new Dead Creek Visitor Center in Addison this past October, thanks to the efforts of Otter Creek Audubon and bird bander Rodney Olsen of Vergennes. Olsen facilitated a week of activities and demonstrations in which participants helped identify the birds, observed the banding process, and even released the birds after they were banded. Groups of schoolchildren as well as adults attended the morning songbird banding sessions, while more than 250 people joined Olsen on

Friday night to observe the crew banding saw-whet owls.

Bird banding is a conservation tool that helps biologists track the health of bird populations in the wild. It can also help biologists better understand bird movements in order to target high-priority habitats for conservation efforts.

Olsen points out that each fall, birds are “on a massive migration headed southward, and many people aren’t even aware of it. Dead Creek is a great location to witness this migration because Dead Creek is actually alive – it’s teeming with life.”

He said he was excited for the opportunity to give members of the public the opportunity to “learn more about the conservation work that goes on at Dead Creek and other wildlife management areas every day.”



Tom Rogers