



T.B. Ryder/VINS

# Is the Bicknell's Thrush Telling Us Something?

*Chris Rimmer and VINS Are Trying to Find Out*

By KAREN L. KALISKI

Mother Nature tells us a lot about the state of our world — when we listen. Swarms of black flies indicate an abundance of clean, fresh water. No black flies? We should probably worry about our wells. When a canary in the coal mine stops singing, it's time to rush out ahead of the methane build-up induced explosion.

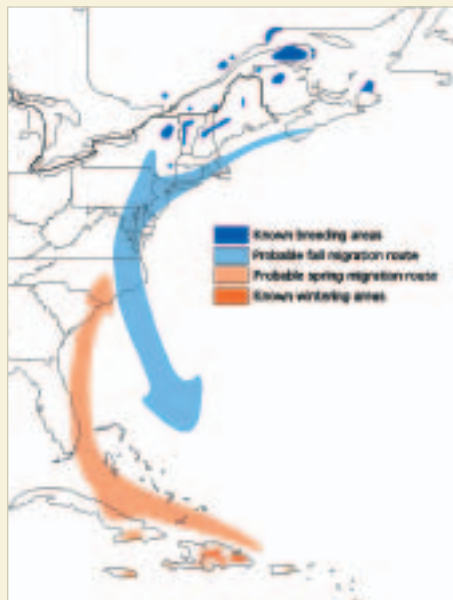
Conservation biologists are constantly on the lookout for natural indicators of our changing environment. Chris Rimmer, director of Conservation Biology, and other researchers at the Vermont Institute of Natural Science (VINS) are wondering what the Bicknell's Thrush might be telling us about ecological changes here in the Upper Valley and in the Caribbean.

## WHY BICKNELL'S THRUSH?

The Bicknell's Thrush — a medium-sized, brownish songbird with a spotted breast — caught Rimmer's attention in 1992. He hadn't seen the bird in the field. Rather, his interest was sparked by talking to colleagues at a scientific conference in Canada where an ornithologist was arguing to classify Bicknell's Thrush as its own species.

Information about Bicknell's Thrush was limited. Few people had actually

observed the bird in the Northeastern mountaintop forests it used as summer breeding grounds. Rimmer remembers thinking, "This bird's habitats are threatened by everything that impacts montane



Bicknell's Thrush migration and nesting areas

ecology: Ski area development, communication towers, wind turbines, atmospheric pollution. Yet we know so little. Where exactly can we find Bicknell's Thrush? How many are there? Where does it go in winter?"

These questions could only be answered by careful study. The thrush's preference for thickly vegetated, high elevation forests and its elusive behavior had kept human observers at bay. In 1992, Rimmer corralled nearly 200 volunteer birders to climb mountains throughout the Northeast to look for Bicknell's Thrush. Armed with birdsong recordings that would elicit responses from real birds, the volunteers reported the species' widespread distribution on mountains over 3,000 feet.

Comparing volunteer-recorded data with historical records, Rimmer confirmed that Bicknell's Thrush had disappeared from Mount Greylock in northern Massachusetts and several other mountains. "It was an early warning signal that the species might be having trouble," he says.

## THE CARIBBEAN CONNECTION

Rimmer's team began to band birds and follow individuals to study territory, nesting, and migration behavior. "Bicknell's Thrush summer and breed here," explains Rimmer. "They winter on four Caribbean islands: Cuba, Jamaica, Puerto Rico and, most predominately, Hispaniola which is shared by Haiti and the Dominican Republic (DR). Having learned about the

species' breeding distribution and ecology, our next big question was what was happening to it in winter."

With the help of ornithologists from the Dominican Republic, Rimmer found Bicknell's Thrush at several sites on the island. "Population growth, subsistence agriculture and timber have already caused heavy habitat loss down there. That limits Bicknell's Thrush to remote mountaintop forests. They like wet, dense forests, and while we found birds in low elevation areas, there just aren't many of those forests left."

By banding birds in both Vermont and the DR, Rimmer has confirmed that individual birds return to the same breeding and winter areas. "A Bicknell's Thrush that we banded in Vermont flew into a mist net in the DR six months later. It was a mind-boggling event. The chances of that happening are pretty remote," says Rimmer. "It helped us establish a direct link between montane ecologies in Vermont and the Dominican Republic." That link was further cemented when a Vermont-banded nestling was netted in the DR.

#### TROUBLE IN TWO PARADISES

Rimmer's 15-year study of the Bicknell's Thrush is pointing out the troubling effects of montane ecology decline. "Ninety percent of the forests in the DR and 99 percent of those in Haiti have been altered," says Rimmer. "Here we're seeing mountain tops affected by all sorts of human activity. Bicknell's Thrush populations are decreasing. There's a significant 9 percent annual decline in the White Mountains alone."

"We've also documented concentrations of mercury in the bird that correlate

to high deposition of mercury on mountaintops, which has surprised many experts," says Rimmer. It had been thought unlikely for mercury to accumulate in terrestrial species as water is required for its conversion to a toxic form. But, as evidenced by a 10-year-old found on Stratton Mountain in 2005, Bicknell's Thrush show accumulating mercury with age.

In the Northeast, mercury is carried by smokestack emissions. Rimmer is now curious about mercury that gets picked up in the DR. Where is it coming from? And how is mercury accumulating in a montane species? A study of mercury as it transfers up the food chain (dirt to foliage to insects to birds) is underway.



Chris Rimmer makes observations in the field.

Other curious observations will inspire next stages of research. Male Bicknell's Thrushes outnumber females 1.8 to 1. This may help explain the species' unusual mating habits; females often mate with multiple males. It also begs a larger question — what is happening to females? Are they losing out in the competition for diminishing winter territories? Do fewer females make it back to Vermont? Are they compromised when they return?

"It's very important to the species' overall conservation to answer these questions," says Rimmer. "We can't look at any area in isolation."

#### THE REAL CHALLENGE

The competition for suitable winter territories is fierce for the Bicknell's Thrush. The competition for research

funding is fierce for Rimmer and VINS.

VINS has long supported Rimmer's work as part of its mission to conduct ecological research and provide educational resources. More than 800 citizen scientists are helping VINS compile data for a new atlas of Vermont breeding birds, conduct loon and butterfly studies, and continually monitor Bicknell's Thrush. Rimmer and VINS also rely on grants, fundraisers (like the annual Birdathon) and donations from people "who really believe in what we do," says Rimmer.

Key to expanding research and conserving Bicknell's Thrush is spreading information and creating a sense of responsibility. This fall, the first guide to

the birds of Hispaniola will be published by Princeton University Press. Authored by Steven Latta from the Point Reyes Observatory, Rimmer, and others, the guide, titled *Birds of the Dominican Republic and Haiti*, will be printed in English, Spanish and French. "We want it to be useful for people here, in Spanish-speaking DR and French-speaking Haiti," says Rimmer. Rimmer and colleagues are looking for resources to distribute the guide in both countries. "It's hard to get books down there, and few people can afford them."

Rimmer is also creating an innovative Hispaniola Conservation Fund. "It's important for ski areas, wind generation farms, telecommunications companies and other developers in the Northeast to help mitigate impacts of their activities. Conserving habitats is one way to do that," says Rimmer. The fund, which will be managed by a third party (not Rimmer or VINS), will ask developers and others to contribute to conservation measures that will help protect wintering areas, fund research and provide local conservation infrastructure on Hispaniola. UVL

Karen L. Kaliski is a freelance writer. Besides contributing to several local publications, she provides marketing communications services to clients in the Upper Valley and beyond.

### Learn More

Learn more at [www.vinsweb.org](http://www.vinsweb.org) by clicking on "Conservation Biology." You can also order *Birds of the Dominican Republic and Haiti* online at [www.pupress.princeton.edu/titles/8270.html](http://www.pupress.princeton.edu/titles/8270.html)