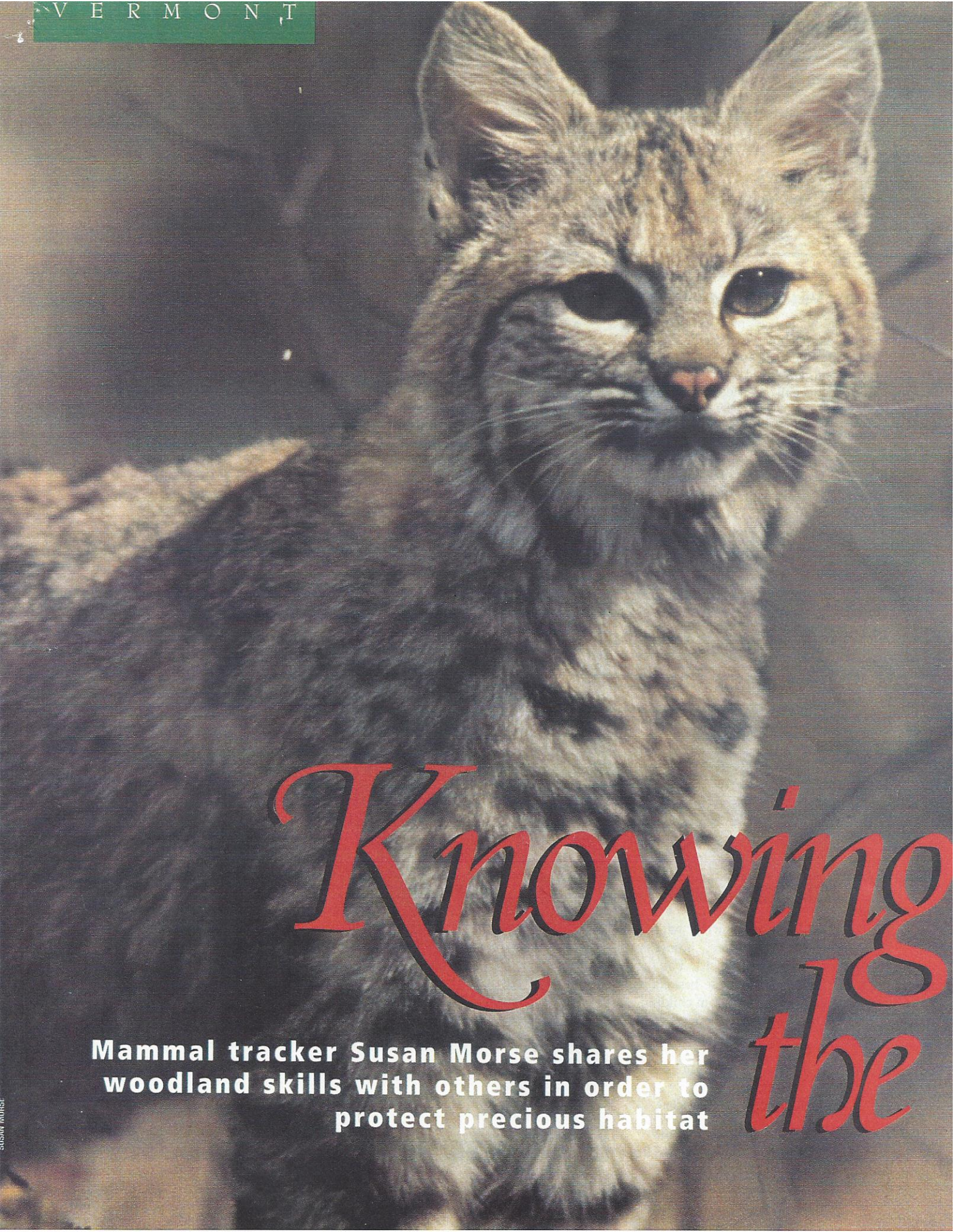
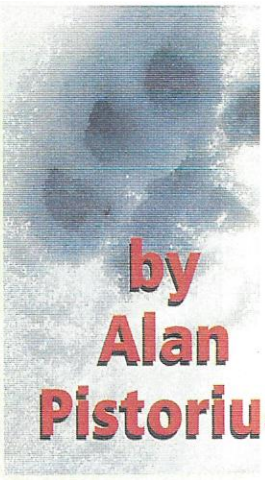


Knowing the

Mammal tracker Susan Morse shares her woodland skills with others in order to protect precious habitat

SUSAN MORSE

"Can you believe you're in Chittenden County?"



by Alan Pistorius

Susan Morse asks triumphantly, sweeping the horizon with her walking stick. "We've got 185 square miles of wild country here, traversed by one paved road. Let's see what lives in here." And she turns on her booted heel, heading into snowy Green Mountain woods midway between Burlington and Stowe, leading a train of her four German shepherds—each carrying twin packs containing first aid equipment and emergency clothing—and trailing them, in rainbow-hued winter jackets and ski pants, 16 Harwood Union seventh graders and six assorted adults.

We climb slowly through woods dominated by yellow birch, hemlock and spruce, and Morse stops to show the kids a deer scrape she had found last fall. "The bucks like to scrape in a spot like this, with a tree branch at head level." She grabs the branch and draws it across her face. "They rub the branch across their eyes—there are glands in the corners—and lick it while scraping the ground with their front feet. Then they urinate down their hind legs over another set of glands, so they get a lot of scent out. What do you suppose they're communicating here?" A pause. A tentative suggestion: "Territory?" The class hasn't loosened up yet, and Morse answers her own question: "They're saying 'I want a DATE!' If a doe happens by and is interested, she'll add her scent, and he'll follow her, and they'll pair up."

Her unruly bob of blonde hair a beacon for those of us in the rear of the march on this overcast mid-winter day, habitat specialist, freelance forestry consultant, arboretum tender and mammal tracker Susan Morse leads us past a clearing ("We cut an opening here to produce quality browse for snowshoe hare, which are in decline in these parts; remember, not all lumbering hurts wildlife.") and continues, pointing out raccoon, red squirrel, deer and fox tracks. She shows the kids an old fisher scat, complete with porcupine quill, and a goshawk nest. Up the trail we pause at the "howling tree," where Morse and her dogs—they enjoy this—point their snouts at the sky and howl like wolves. (On an earlier occasion someone had been working a chainsaw back in the woods when the quintet commenced a howl. The chainsaw fell silent.)

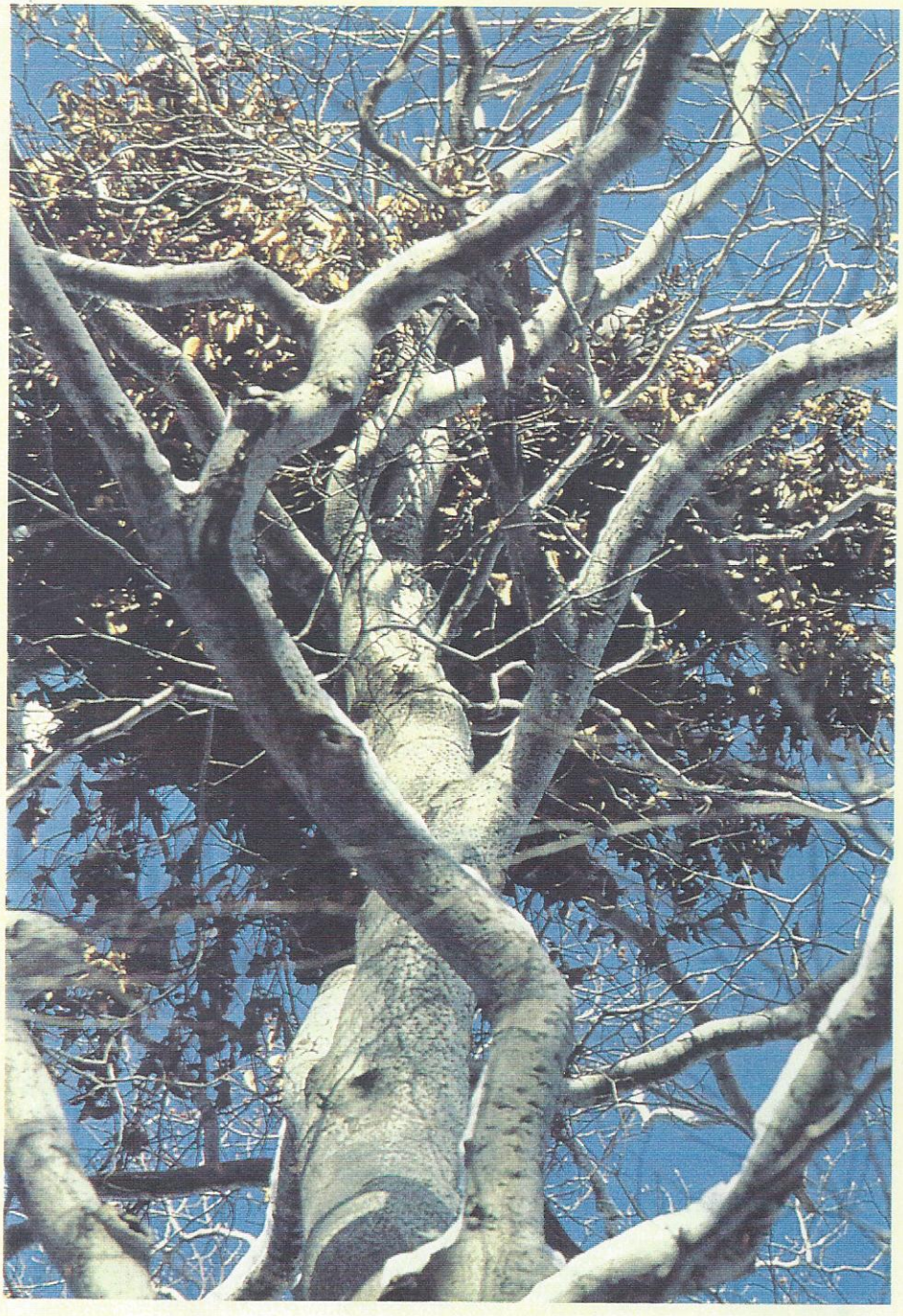
Morse calls a halt before a cliff face. "This is core bobcat habitat. Can you guess what they might use this cliff for?" Failing to get the response she's looking for, Sue, a natural Socratic-method teacher, tries another tack. "How many of you have cats at home?" Hands go up. "Can your cat jump from the floor to the top of the refrigerator?" "Yes!" "Can your dog?" "No!" "There's your answer. When mother bobcats go off to hunt, they leave

Bobcats live throughout Vermont's wildlands

CRAIG LINE

Susan Morse, right, with a group of trackers

SIGNS



SUSAN MORSE

A black bear's cache of beech branches resembles a nest high up a tree.

their kittens up on cliff faces where coyotes can't get at them."

The retinue continues to climb, the forest mix adding white birch and beech. After eating a quick lunch in a hemlock thicket, we enter mature beech woods, and, a twenty-minute crow flight from the traffic congestion of Essex Junction, we begin to encounter bear sign. The claw wounds from climbing adult bears are evident on several large beeches. "Black bears can climb these trees faster than you can ask how bears can climb so fast," Morse says. "Everybody hold out a foot and wiggle your big toe. If you were a bear, your big toe would be on the outside of your foot, a big help for climbing."

She points out a "baby-sitter" tree, a grand old double-leadered hemlock, a "witness" tree referred to in old property deeds. "I've known mother bears to send their cubs up this tree to rest in safety while they nap at the base or go off to forage." And she shows the kids a bear "nest," a collection of branches nested high in a sizable beech. "When I found this 'nest'—it isn't a nest at all—a couple of falls ago, it was eight feet across. A bear had broken off a bunch of beech branches and stashed them where it could feed in comfort. A beechnut is the size of your fingernail, and when bear are fattening up in autumn they can eat 2,500 a day!"

There is moose sign here as well. Morse points to repeated double gouges that have stripped sections of bark five to six feet up on several maples. "A moose has only lower incisors—notice that the wound runs bottom to top; I think the moose are after minerals available in the sap flow." The tiny wounds on a nearby maple sapling she identifies as red squirrel bites, their access to sweet sap.

This school field trip is winding down, but Morse pauses a last time on the ridge to make a point about what she calls "habitat connectivity." "Where do you suppose the bear that use these woods are right now? They're denning near the top of that mountain obscured in clouds across the valley. Then in spring they head for wetlands way down the valley there to your right for early green forage. And in fall they work this ridge for acorns and beechnuts. Bear and bobcat and fisher range over enormous territory, and you can see why a protected patch of woods here and a protected mountainside there don't secure their future."

BACK HOME ON THE JERICHO spread she caretakes, in the company of three active cats (which she calls "portable pumas") and thousands of books (which are conspiring with gravity to bring down hundreds of linear feet of bookshelf), Sue Morse alternately stirs a pot of soup and ministers to an importunate telephone. (Her trim figure and thirty-something looks, rumored to have been carried over the divide of forty, suggest that age- and fat-conscious Americans might consider a year-round regimen of mammal tracking and phone hopping as an inexpensive alternative to exercise machines and wrinkle creams.) During intervals of respite, she talks, reluctantly, about herself and, enthusiastically, about her tracking projects.

Like most naturalists, she grew up outdoors, her early stomping grounds in eastern Pennsylvania. "All my friends wanted to do was go shopping in Philadelphia," she recalls; "I spent my

time in the Wissahickon Woods," a magnificent forest outside the city that William Penn had ordered preserved in perpetuity. Unlike that of many a naturalist, her family supported her predilection. Her great-grandfather, grandfather, father and mother were all landscape architects of the naturalistic school, a genealogy she celebrates via a shoulder patch on her tracking jackets: "Morse & Morse: 4 Generations in Forestry."

As a teenager, with family, family friends or on her own, she was already exploring America's wild places, often on Sierra Club trips. "I was privileged," she says. "My parents let me go anywhere. I'd earn the trip fees pitching hay, shoveling snow. I hiked in the Sierras with Dave Brower himself! I hiked much of the Appalachian Trail. I explored the Alleghenies and Poconos before the days of tract housing. I canoed the Allagash." Her grandfather, in particular, was a kindred spirit. "He knew John Burroughs and Gifford Pinchot. He was a great reader. He loved Faulkner and Thoreau. I remember the twinkle in his eye when he gave me my first copy of *Walden*."

After a couple of uncongenial years studying forestry at Penn State, Morse transferred to the University of Vermont, where she pursued another love, finishing her undergraduate work in English, then continuing to write a master's thesis on Shakespeare. Most English majors go on to law school or take up cab driving. Sue Morse departed Puck's forest for the wilder woods and badlands of North America and made herself a mammal—and especially a cat—tracker.

SHE HAS TRACKED MOUNTAIN LION in Arizona, California and Alberta, in the Great Basin and northern Rockies, and recently searched for them in New Brunswick. Morse thinks it likely that recent "catamount" sightings in Vermont, at least one confirmed, represent released animals. "You'd be surprised how many people keep big cats for pets. Then one day, when they've gotten big, they give their owners a funny look and they get dumped out in the woods." Morse thinks that, in time, if we take care of the environment, the cougar will reintroduce itself to the Green Mountains.

BOTH: SUSAN MORSE

Loss of habitat in the early 20th century drove Vermont fishers (above) to near extinction; today they have been successfully reintroduced in the state. Left, coyotes have been able to adapt to human activity, but according to Sue Morse are often unfairly persecuted.

She has found experience in the field ("dirt time") the best teacher, but she has profited by wide reading in the technical literature and by working alongside experts such as Harley Shaw, an oldtime Arizona Game and Fish big-cat tracker. She co-directs a track count in the Huachuca Mountains of southeastern Arizona, where yearly transects record evidence of mountain lion, black bear, and bobcat; "and we keep a hopeful eye out for jaguar and jaguarundi."

It was, in fact, the Fort Huachuca project that inspired Keeping Track, Inc., a nonprofit organization Morse founded in Vermont in 1994. Recognizing the fact that, while the distribution and abundance of high-profile birds are fairly well known, the same cannot be said for low-profile mammals, Keeping Track seeks to provide baseline information through community involvement. "We give a minimum of six classes to interested volunteers from a given town, some conducted in the Green Mountains, some in the town itself." When volunteers have been adequately trained, they run quarterly standardized transects, recording track-and-sign evidence for six target species: mink, otter, fisher, black bear, bobcat and moose.

"People are thrilled to learn that these animals are actually present in their towns," Morse says. "But we know so little about their seasonal patterns, movements and habitat use. Where do fisher tracks congregate, and where are they never found? When is moose sign found in a particular area? Where (and how) do bear cross highways? We need to know what areas are critical for one or more of these mammals, and where the critical travel corridors are." Keeping Track's goal is better town planning. "Towns want to protect wildlife habitats, but we often don't know what they are. We hope to

provide good information so that conservation and planning commissions can make more informed decisions about where development is appropriate."

ASKED WHETHER ANYBODY IS interested in the arcane business of tracking, Morse laughs. "Interest is just exploding. I couldn't sell a tracking workshop ten years ago; now forty or fifty people sign up." Volunteers from eight Vermont towns have been trained by Keeping Track, and seventeen additional towns begin training next year. In addition, Keeping Track has a contract to work in San Diego, and Morse has gotten feelers from New York, Massachusetts, New Hampshire, and Texas, as well as from other Vermont towns. "I sometimes call this project 'The Faces of Our Neighbors.' Once Vermonters know that they have fisher and bobcat for neighbors, they want to protect them; and they can play an important role in doing so."

That excitement is certainly apparent among members of the Lewis Creek Watershed Association (LCA), which became one of Keeping Track's first clients. Founded in 1990, representing the five towns of Charlotte, Ferrisburgh, Hinesburg, Monkton and Starksboro (Bristol came aboard later), the LCA set out to identify and map the watershed's natural resources. Members wanted, among other educational and recreational projects, to design trails through the riparian corridor. But where to put them with the least impact?

Charlotte's Marty Illick remembers approaching state agencies for wildlife information. "They knew where the deer yards were and there was some bear information, but that was about it. We basically had to start from scratch." The LCA hired Susan Morse, who, in addition to training volunteers in tracking skills, has devoted part of the past several years, often accompanied by local LCA members, to the investigation of watershed wild places from Hogback Mountain to Charlotte lowlands documenting mammal use, identifying "hot spots" and travel corridors.

Their Keeping Track training behind them, LCA members are now taking on the data-collection responsibilities in their own towns, running from four to six studies per town. LCA trackers search not only for tracks and the more obvious kinds of sign, but for prey remains and seed caches, for ravaged hornet nests and flipped rocks (both bear sign), for rut pits and wallows, for rubs, scratches and scrapes, for "walkovers" (saplings topped by foraging moose) and haul outs, "lays" and "spraints." (Bobcat lays, often found on rock ledges, are protected places used for resting and watching for prey; otter sprainting—or toilet—areas, often located on beaver dams, will show old scats weathered to piles of fish scales or crawfish parts, fresh scats and sometimes a mysterious white, viscous substance.)

The Lewis Creek trackers—homemakers, teachers, retired folks, town officials, students, an electrician, a lawyer, a food scientist, a woodworker, a travel agent—are not only doing important conservation work; they are clearly having the time of their lives. Susan Morse and Keeping Track have, they agree, opened up whole new perspectives on the natural world. Old friends Chris Runcie, who tracks in Starksboro, and Barb Ouimette, who "signs" in Ferrisburgh, talk about gaining track-and-sign confidence. "It's just amazing to be able to 'read' new kinds of evidence. Who pays any attention to a downed beech limb in the winter woods? Now, just by looking at the color of the leaves, I can tell whether it's just storm damage or if a bear had broken it off last fall while harvesting beechnuts."

Joann Appleton, another Ferrisburgh tracker, shares the thrill of finding paired tracks of fisher, a notorious loner. "They must have been courting. The male and smaller female tracks would loop apart and then come together again." Appleton talks about spring bear sign, root-eaten Jack-in-the-pulpit plants dropped neatly in the center of circular excavation scrapes, and Runcie recalls finding shredded false hellebore, more spring bear work. Pete Aube works the woods in Monkton. "I've been a hunter all my life, but I'm learning things about these animals I'd never have known. I've found where fisher had been digging up and eating beechnuts!" And he discovered that under-road culverts built for cow passage have been accommodating mink, fox and coyote as well.

Marty Illick laughs when she remembers Susan Morse's first visit. "We were a bit nervous. We wondered if we would find any tracks at all. Well, we walked out of the town office down to the drainage ditch, and there was a set of skunk tracks. We brightened up. And then Sue says 'What's the track next to the skunk's?' and it was bobcat! We nearly died." Charlotte subsequently passed a two-cent tax for conservation/agricultural resource protection. "I think," says Illick, "there's a connection between those bobcat tracks and that vote." V

Alan Pistorius has written about a multitude of creatures for this magazine.

Keeping Track

Sue Morse knows of only a handful of other professional trackers. "There's Jim Halfpenny in Montana, Tom Brown in New Jersey, Paul Rezendes in Massachusetts, and a couple of others." (Rezendes is the author of the best track-and-sign field guide available, *Tracking and the Art of Seeing: How to Read Animal Tracks and Sign.*) But trackers, she says, are "elusive, private, loners, like the animals we study," and other experts—who don't teach or publish—are undoubtedly pursuing the art in the American wilds. The current "amateur" resurrection of track-and-sign would strike the famous 19th-century American trackers as laughably anachronistic. But how could Ben Lilly and the others have anticipated that the same skills they used to track down and destroy mountain lion and grizzly, coyote and wolf would one day be employed to conserve their remnant survivors?

Keeping Track can be reached at RFD 1, Box 263, Jericho, VT 05465. Like most nonprofits, the organization is chronically under-funded, and, Morse says ruefully, "correspondence from philanthropists large and small is particularly welcome!"