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# Vermont's Critical Paths project helps creatures cross the road

By Joel Banner Baird, Free Press Staff Writer  
Sunday, March 14, 2010

ELMORE —By their carcasses and tracks, we know that tens of thousands of creatures sneak across Vermont roads every year.

What's so important about getting to the other side? Food, water, more genetically varied mating opportunities.

Larger concerns loom ahead: Scientists predict that if New England's climate continues to warm, more and more species will need to mosey north, or into higher elevations.

They will almost certainly continue bumping into human obstacles, and with greater frequency.

What if they do?

Advocates in Vermont's Critical Paths project are looking for answers and are encouraging communities to identify, improve and protect wildlife corridors. It's a survival strategy that links to a region-wide effort to restore "permeability" to a landscape that stretches from the western Adirondacks to Quebec's Gaspé Peninsula, at the mouth of the St. Lawrence River.

The major concern: Critters' numbers will dwindle — not only because of reduced access to accustomed food sources, but because a restricted gene pool (inbreeding) makes animal populations more vulnerable to disease.

Critical Paths focuses on larger, wide-ranging mammals such as moose and bear, said John Austin, a biologist with the Vermont Fish and Wildlife Department and a key player in the project.

"Once they're taken care of, the smaller pieces of the puzzle fall into place more easily," he said. "Bears need a lot of open space. If they don't get it, a lot of them will end up at people's bird feeders. That's not where we want them. We want them out in the wild."

In wildlife-human interactions, humans generally get the upper hand, he added: "A fed bear is a dead bear."

## The men in the culverts

This story includes a whiff of road kill. Just a whiff — because most of us sail by that unpleasantness in a matter of seconds.

In weather that warrants a rolled-up window, it's a story that doesn't smell at all.

This spring, flattened woodchucks, snakes, raccoons and possums might get our once-over. Buzzards and crows, unlike chickens, won't pause to consider the best way to cross the road — but they'll flock to easy pickings when the traffic dies down.

Several dozen people (arguably the region's dominant species) have been taking notes.

Last month, two of them made their way through a snowy gully to the mouth of a culvert beneath Vermont 12, between Morrisville and Elmore.



Joel Banner Baird, Free Press Fish & Wildlife Department biologist Jens Hilke, left; and Chip Knight, a community coordinator with the National Wildlife Federation, examine animal tracks beside a culvert near Morrisville last month. The two men -- and their agencies -- are collaborating on projects to ease animals' passage from the Green Mountains' Worcester Range to the North East Kingdom.

Jens Hilke, a conservation-planning biologist with the Fish and Wildlife Department, and Chip Knight, a former Olympian and the project coordinator for the National Wildlife Federation's Climate Change Safeguards Program, found tracks that showed bobcat and coyote had chosen the safer, sheltered passage.

On paper, Critical Paths is a collaboration between Vermont Fish and Wildlife, the National Wildlife Federation, the Vermont Natural Resources Council and a long appendix of academic contributors.

On the ground, the project solicits expertise from residents who really know the territory.

They're looking for contiguous stands of conifers and thick brush that can conceal a bear or moose. They're looking for tracks.

And yes: They're looking at road kill, too.

Hilke and Knight's focus: the Worcester Range, a spine of the Green Mountains that runs diagonally from Waterbury to the Northeast Kingdom.

A more-comprehensive Underground Railway of sorts, they said, will be needed if we want wildlife to survive human trends of exurban or "sprawl" settlement — and the extra road traffic it brings.

"People enjoy connectivity," Hilke said. "Well, other animals want to stay connected, too."

Parcels of human settlement also disrupt migration patterns with fences, lighting and removal of vegetative cover.

Hilke spread a map on the hood of his car. Clusters of green depicted high-cover terrain, ideal for animal migration. Between them, like archipelagos, spread smaller fragments of green.

"The model for habitat protection has been to maintain these big 'islands' of undisturbed land. But the islands are getting smaller and smaller," he said.

Cars and trucks plying Vermont 12 between Montpelier and Elmore take a beating. For prudent drivers, the fresh crop of frost heaves and potholes mandate slower speeds.

At night, the "Moose Crossing" signs do, too.

The moose observe other signs as they roam the ridge of Elmore Mountain, Hilke said. For instance: What's the least conspicuous way for a 1,000-pound *Alces americanus* to hoof it over to Craftsbury and beyond?

Hilke and Knight left their car on the side of the road to find out. Squirrel tracks among the hemlocks offered few clues; that animal thrives, apparently unbothered by humans, in small parcels.

Thick tree cover on both sides of the road boded well for further-ranging species. So did the passage of a brook, a tributary of the Lamoille River.

So did the culvert — and the bobcat tracks.

The wildlife underpass was too low to accommodate a moose. And the uninterrupted stretch of guardrail, oddly, would tend to spook the leggy animal, Hilke said.

Is Elmore Road a lost cause? Hilke doesn't think so.

He's working full-time to merge information from aerial views of terrain with computer models that predict wildlife corridors.

He's updating on-the-ground Geographic Information System (GIS) mapping — the kind that pinpoints retrievable data in virtual map "layers" — with evidence submitted by road and surveyor crews, hunters, trappers, snowmobilers, loggers and hikers.



### **Common (creature) values**

Knight began his prolific skiing career in these mountains; he moved here as a high-schooler. Now 35 and a three-time Olympian, he's returned to Waterbury as a base of operations from which to discuss with neighbors the habitat they share with wildlife: species by species and range by range.

A love of the outdoors, pure and simple, led him to the Critical Paths project. The time

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has come, he said, to examine more closely what fosters the love of a landscape.

“My real purpose is to help people outline the values that we share with wildlife,” he said. “Many of the reasons we all live here are the same reasons that wildlife thrives.”

Six Vermont towns share the Worcester Range. Thirty towns play host to the corridors Knight and Hilke seek to protect.

Middlesex resident Bill Rossmassler said he’s seen encouraging signs of buy-in.

Rossmassler is the special project manager with the Lamoille County Planning Commission, and also a long-time member of the Middlesex Conservation Commission. He figures that in the field of habitat protection, rural Vermonters have wearied of turf wars.

“Wildlife doesn’t respect political boundaries,” he said. “And it has a way of telling you where you’re fitting in and when you’re not. Wildlife helps put us in our place.”

He attributes support for connectivity projects to educational efforts that forge links between local and global concerns.

“There are more resources available to more and more people, and different people can plug into different parts of the effort,” Rossmassler said. “People involved in this totally get it,” he added. “It’s becoming more mainstream.”



### **A self-guided future**

Hilke welcomes public participation, because he said it snowballs into broader consensus — and quicker action taken to improve conditions locally.

The Critical Paths project, he added, steers clear of top-down policy decisions.

“We give them the science, town by town. We offer them a range of options, and after they make a decision we can provide them with technical assistance,” Hilke said. “But we’re not telling them what to do.

Land conservancy is one strategy that works, some of the time. So does alerting landowners to tax incentives, technical assistance and options to regulate development in their communities.

Hilke continued: “We don’t want people to think that the work’s all done — to say, ‘Oh, the scientists are taking care of all that.’”

He wants you to get outside — on foot — and take a look around. He hopes you’ll make tracks out there, with other species.

Then he wants you to talk to a neighbor.

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