

Following the mouse back in time

BY MARK BUSHNELL

Paul Bierman is a geologist by training and trade, but his current passion is history. "This is the stuff that gets me up early in the morning and keeps me up late at night," says the University of Vermont geology professor. "It has become my passion because it is so connected to the people in Vermont."

What Bierman is talking about is the Landscape Change Program that he and his wife, Christine Massey, a fellow geology professor at UVM, launched seven years ago. Landscape change is key to much of geology, but Bierman and Massey are studying it in what in geological terms is the very recent past. They are interested in changes to Vermont's appearance over roughly the last 150 years. That is, since the advent of photography, which is one of two key tools the program uses.

The other tool is the Internet. The results of the program's work can be viewed online at www.uvm.edu/landscape. What you find there is a massive archive of historic photos of Vermont. The images were culled mainly from the collections of UVM, the Vermont Historical Society and the Vermont State Archives. The result is an easily accessible archive of more than 12,000 historic images of the state. The Web site also contains roughly another 1,200 photographs that are contemporary. Those photos are just as important as the older ones, because they were taken to pair with a historic shot to document how Vermont has changed. This is where the site really excels.

Search, for example, for the word "interstate" and you will see nearly 250 images of the two interstates that cross Vermont. Most of the older shots you will find with this search are aeriels taken soon after the 1927 flood. UVM students working for the program have re-photographed sections of the interstate to match these earlier images. In the older shots, for example, you might see Route 2 meandering through the Winooski Valley. The modern shot shows Route 2, still meandering, crossed by the arrow-straight line of the Interstate 89. The companion photos conjure a range of thoughts. The paths of the routes alone suggest how engineering changed over time, as have our attitudes toward how long we are willing to spend to reach our destination.

The program was started with a grant from the National Science Foundation and was intended to get kids interested in earth science. The Vermont-based Lintilhac Foundation now also funds the program's work. "We needed visual images of landscape erosion," Bierman says. "That was our hook." At UVM's Special Collections, he found what he wanted: old photos of quarries, mines, landslides and the like.

Bierman and Massey trained about a dozen teachers from around the state on how to help their students search for old photographs and then take new photos of

See Vermont as it was 200 YEARS AGO
A digital archive of historic and current photo pairs, educational resources, and more!

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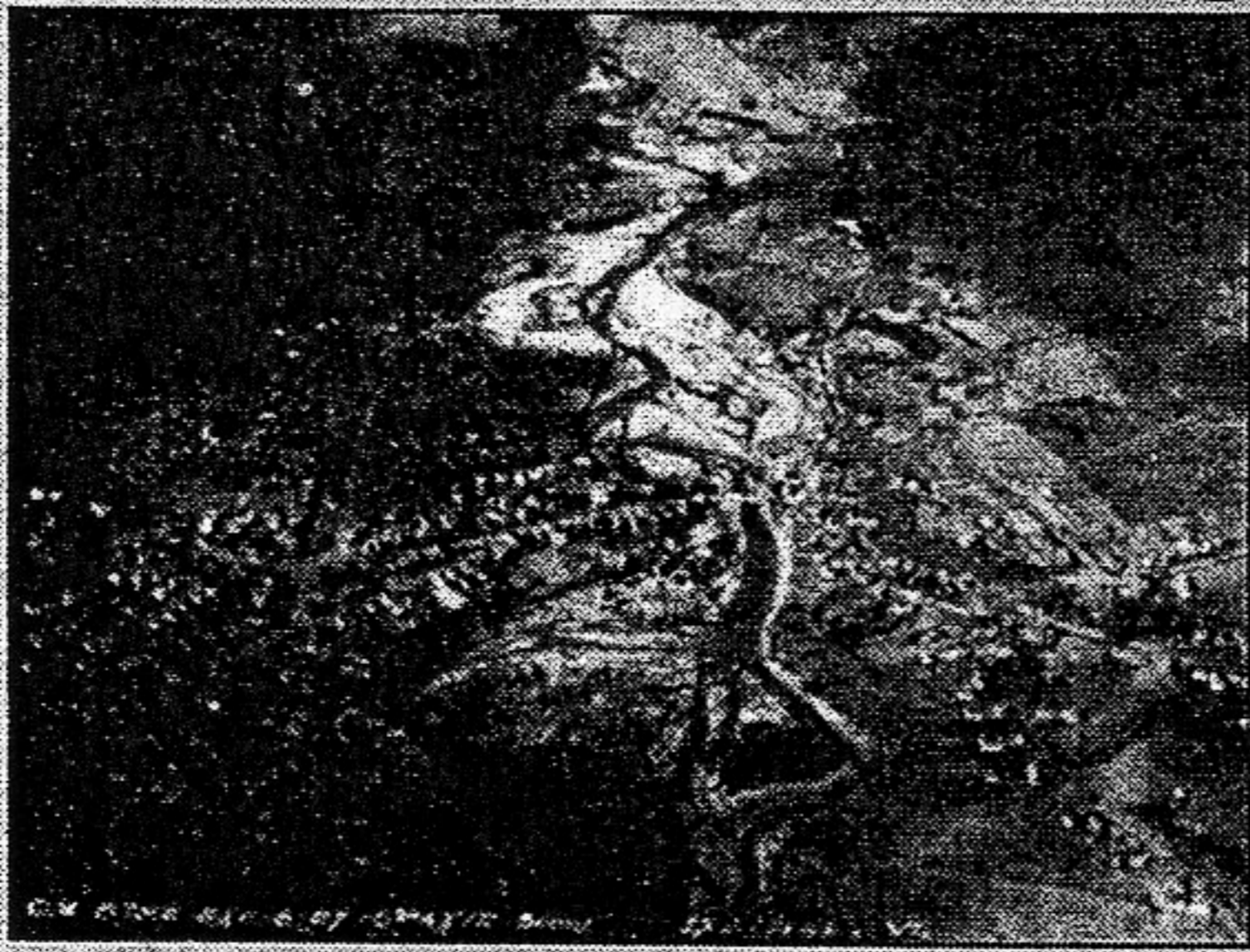
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Historic Photograph



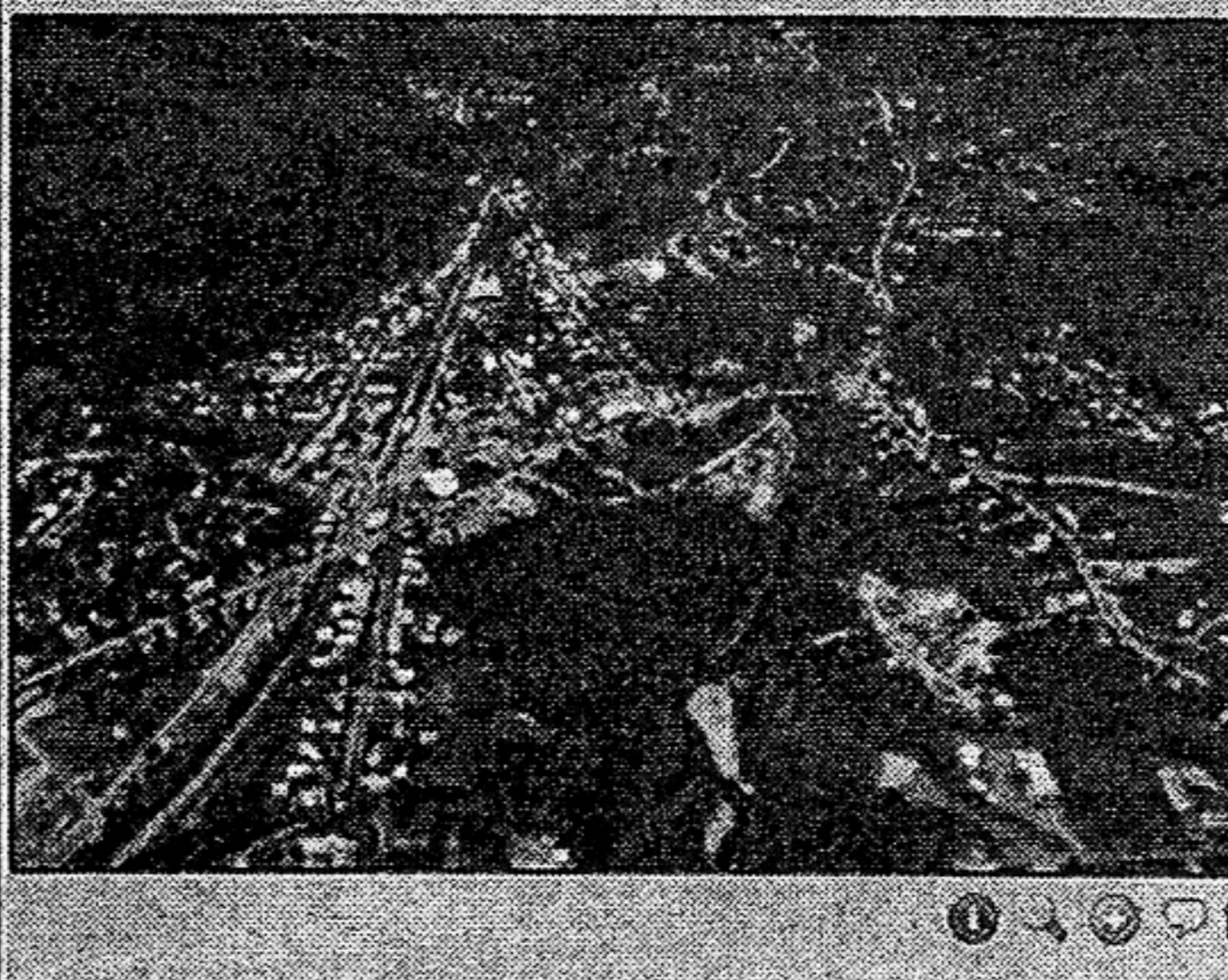
Aerial photograph of the White River

Town: Randolph **County:** Orange **State:** Vermont

Date: 1927-11-08

Description: The historic image gives a bird's eye view of the White River and the town. Sediment deposited by the floodwaters is visible in the floodplain. Most of the landscape around the river has been cleared for farming. A caption at the bottom of the image reads, "11-8-27-10:30A. Randolph, Vt."

Modern Photograph



Aerial photograph of the White River

Town: Randolph **County:** Orange **State:** Vermont

Date: 2004-05-08

Description: The recent photograph shows the same area. The river channel is much narrower and the riparian zone has reforested. Some of the landscape outside of the river valley has also reforested. Note the development of the floodplain forest in the center bottom of the recent photograph.

The Landscape Change Program Web site aims to offer Vermonters a glimpse of the past and compare it with how the state looks today. Here are two aerial photos, one from 1927, the other from 2004, showing the White River passing through Randolph.

the same spot. The students have written brief descriptions of the scenes and even recorded the GPS (Global Positioning System) coordinates of the locations.

"We learned that the project worked OK at getting kids interested in earth science," Bierman says, "but that it worked way better at building a sense of place."

The more the students knew about their community, the more they cared about it.

The program's database has had more tangible applications as well. The Lake Champlain Basin Program, which aims at protecting the lake and its watershed, has requested images to use in making signs for its environmental initiatives; town planners have used information from the site to help them design town plans; and one person used the site to help locate old gas stations to make sure old gasoline storage tanks weren't leaking.

"We have been really happy and surprised

by the breadth of usage," says Bierman, who has his own use for the site: showing his 7-year-old daughter how the state used to look.

He hopes the Web site will help Vermonters make good land-use decisions. "We rely heavily on our tourism dollars," he says. "The image we portray of Vermont, that's a really precious thing here. If this database can provide us some information to help inform our decisions, that's great."

Bierman says that people who are for or against a major development, like the proposed Circumferential Highway in Chittenden County, can be better informed if they study how various areas looked before and after other significant projects.

The Web site has images from every Vermont community except one. (But chances are you aren't from the Northeast Kingdom town of Lewis, which as of last year had a population of one.)

Having images from a broad range of

communities is essential to making the program work. "We wanted to make people interested," Bierman says, because the program relies heavily on community help.

Though the Web site's photos come mostly from major libraries and archives, some of the images are from town libraries, town historical societies and individuals. The advantage of having the images online is that you can see them anytime, not just when the institutions that own them are open. Also, the Web site serves as a sort of digital backup in case the originals are somehow lost, damaged or destroyed.

Bierman hopes more people will share their photos. Thanks to laptop computers and scanners, Bierman and his team of students don't ever take possession of the photographs. They wouldn't want to risk having them damaged or lost. Instead, when someone is donating images, they show up at their location and scan the images into the database.

Because the program's archive is online, people can also contribute by emailing old photographs of their own. Or they can find a historic photo on the Web site and hunt down the location in person, taking a photograph and GPS reading to share with the program. (The program even has several GPS units it can loan.)

Some Vermonters have contributed to the site in other ways, emailing comments that add details to the caption of a particular photo or point out a possible error. At times, visitors to the site have gotten into disagreements over some details, particularly having to do with the location of certain bridges.

When it isn't clear who is right, Bierman leaves the whole chain of comments that a photo elicits. "It's the Web," he explains. Ultimately, the information on the site should become more refined through the online community editing process. "We have the expertise of a half million Vermonters out there," says Bierman, who hopes to tap into as much of that expertise as possible.

The Landscape Change site, which gets several thousand hits a week, has a dizzying amount of information on it. Fortunately, you can access it many ways, through simple searches or more complex ones. If your search nets too many images, the software allows you to refine your searches.

Once you have found what you are looking for, you can zoom in easily to see a more detailed view. Perhaps best of all, with a click of a globe icon, the software lets plot the location of the photo on a map and on a satellite image.

The site might seem daunting at first, but after you poke around a little bit, it becomes relatively simple to use.

"The best way to learn it," Bierman suggests, "is to get in (to the Web site) and press every button."

Mark Bushnell's column on Vermont history is a regular weekly feature of Vermont Sunday Magazine.