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FOREST TO FARMLAND AND BACK AGAIN: A CHANGING VERMONT LANDSCAPE

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Abstract: Hundreds of historical images dramatically show how humans and the Vermont landscape have affected one another in the last three centuries. By reoccupying the sites of these historical photographs and paintings, we document that the most prevalent changes in the landscape include construction and removal of dams, grazing, farming, flooding, landslides, road construction, clearcutting, and subsequent reforestation. In fact, we found that many of the pictures were hard to rephotograph because the once-bare hillslopes from which the photos were taken are now heavily tree covered. Around 1900, when many historical photographs were taken of Vermont's hillslopes, as much as 60% of the landscape was deforested by sheep farming and timber harvesting.

Much of the landscape change that we have documented in Vermont's rural areas has occurred around waterways, including millponds and dams. For example, small dams such as one that powered a mill in Greensboro, Vermont have been removed returning the once-ponded Greensboro Brook to a free-flowing stream. Conversely, after the statewide flood of record in 1927, many flood control dams were installed on large rivers.

In urban areas such as Burlington, we find that much of the landscape change involves the addition of many human-made structures including buildings, roadways, and parking lots all of which inhibit surface infiltration. In Burlington, we used air photos and maps to quantify this impact throughout the past 150 years. For example, on the University of Vermont campus we found that impermeable surfaces area has increased from 4% of land area in 1869 to 43% in 1996.

The images we analyzed are available to the public at a National Science Foundation supported website (<http://geology.uvm.edu/landscape>).