Celebrating a good engineer: Greening Greenfield talk explores how beavers change the landscape

by **Madison Schofield, The Recorder,** February 23, 2026

GREENFIELD — Transportation engineers may often be at odds with local beaver populations, which can interfere with designs for culvert and bridge infrastructure, but professor Christine Hatch says beavers have a lot that they can teach us.

“Beavers add more complexity to the landscape,” said Hatch, an Extension professor of water resources and climate change at the University of Massachusetts Amherst. “You might guess that transportation workers have a bone to pick with beavers, for some reason, because they often end up being in a lot of rivers in this state and they have a lot of roads in this state, and where they intersect, beavers say, ‘Nah, you’ve got that all wrong, you’ve left a leak in it, I can fix it.’ So, they’ll go and clog it up, and then trouble ensues.”

Hatch, who serves on many environmental stewardship and water conservation boards, presented “What Can We Learn From Beavers?” at the Second Congregational Church of Greenfield as part of Greening Greenfield’s 2026 Winter Series. On Thursday, she shared images of beaver dams and stream table models of the impacts of beaver dams versus human-built infrastructure on ecosystems, and shared stories and excursions she and her students have taken to local beaver dams.

For example, she showed aerial images of a stream next to a road in Belchertown that was washed out after a severe rainstorm in 2021. Though a man-made culvert had failed, a nearby beaver dam remained intact.

She said one lesson to be learned from beavers is to always have a backup. While watching beaver activity after the storm, she noticed the beavers started building a secondary dam just behind the original one a few days after the rain stopped.

“Not even five days after that event and the washout, the beavers are like, ‘I don’t know, this seems dicey, we’re gonna build another one. We’re gonna reinforce and double down,'” Hatch said.

Christine Hatch, an Extension professor of water resources and climate change at the University of Massachusetts Amherst, points to beaver building locations on a map during a talk at the Second Congregational Church of Greenfield on Thursday. Credit: MADISON SCHOFIELD / Staff Photo

When dams fail or leak, beavers can patch holes or rebuild, making post-storm repairs much faster and easier than humans can typically repair infrastructure. Beavers use sticks and mud, and often build, rebuild and expand their dams and lodges over generations.

“The beaver dams, this series of beaver infrastructure along the way there, in my opinion, was really slowing down this floodwave and spreading it out. Not everyone agrees that beavers in the landscape are a good thing, but I think, in this case, it actually was mitigating some impacts of that climate change-induced flood,” Hatch said. “Not much you can do about the culvert that was too small, except make it bigger.”

She added that by damming up a waterway, beavers can hold water in one location, creating a home for fish, birds and other animals.

“When beavers dam up an area and make it wet and squishy, full of organic material, they’re creating a wetland behind it,” Hatch said. “It provides critical habitat for all sorts of creatures.”

The full presentation was recorded and will be posted to the Greening Greenfield website.

The next Greening Greenfield talk will be on March 19, featuring the Conway School of Landscape Design. For more information, visit greeninggreenfieldma.org.