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## **Boone floods during remnants of tropical storm Fred, harms water quality**

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Viewed from the covered bridge on the Boone Greenway, Winkler Creek rose high enough to cover the sandbar runs diagonally above the water.

Photo by Marisa Mecke



BOONE — It was high tide at the Boone Mall the night of Aug. 17 as the remnants of tropical storm Fred made its way through the High Country. Although Boone residents are coming to expect flooding during storm events, the physical and environmental damages of the floods are causing continued harm to the town.

The town of Boone has a local river gauge dashboard tracking water levels at three different sites in town. The gauge labels “major” flooding at 7 feet. At the Deerfield Road Area and East Fork of the New River monitoring site, the water level peaked around 12:45 a.m. on Aug. 18 at 9.2 feet. At the monitoring site by Hunting Hills Road and the South Fork of the New River, the water level rose to staggering 12.9 feet around 1:05 a.m. on Aug. 18.

Town of Boone’s sustainability and special projects manager, George Santucci, said that there are many factors that play into why flooding in Boone has become so intense. He noted the increased intensity of storms as well as the impact of development in the town.

“Boone is a small town, we’re only six square miles,” Santucci said. Water cannot pass through impervious surfaces, such as roads and the materials which build buildings. Santucci said that as more of these surfaces are built in Boone there is less space water has to be absorbed into the ground during major storms, which is called a floodway.

Because development in town is so tight, Santucci said that the floodways around creeks and rivers have been altered. Rather than having wide floodways, many developments have built tall, vertical edges around waterways so construction can utilize maximum space on a property. With no place to go horizontally, Santucci said water is pushed with more force through these narrow channels, acting somewhat like a firehose, and causing more damage.

One way in which the town of Boone is addressing the flooding is through the Stormwater and Stream Enhancement Plan for Winkler, Hodges and Boone creeks. Partnered with the New River Conservancy, which provided grant funding, Santucci said this project is working with private landowners along these creeks to expand the floodways and reduce flooding in an area of town where it tends to be the worst, by Blowing Rock Road and the Boone Mall.

Flooding in the streets and parking lots has become a perennial problem in Boone, and unfortunately it is one that will persist, according to Watauga Riverkeeper Andy Hill. “The flooding that we saw was pretty normal for a big storm in Boone,” Hill said, explaining that this level of flooding has become normal and expected for the town in recent years.

“We’re getting more rain all at once instead of spread out,” Hill said, and that this trend is a pattern of climate change that will continue.

The Watauga Riverkeeper has a water quality testing program, popular for its weekly swim-water quality reports, that took samples of flood water for testing on Aug 18. Hill said his program mostly tests for E. coli, but flood water generally has lots of other pollution so they are also testing for turbidity, a measurement of sediment in water.

While sediment runoff is the most common pollutant in the High Country, Hill said that “with a flood, you get all kinds of nasty things in the water because floods can frequently overwhelm sanitary sewer systems and septic tanks.” He added that floods also flush off pollutants on the ground like trash, brake oil, gas and anything else that may be in a parking lot.

“Pretty much all the sites, all High Country waters, failed to meet safe swim standards,” Hill said. However, this is usually the case for severe weather events.

To see the Watauga Riverkeeper’s swim safety guide, visit [www.theswimguide.org/affiliates/watauga-riverkeeper/](http://www.theswimguide.org/affiliates/watauga-riverkeeper/).

For the Town of Boone’s river gauge dashboard and more information about floods, visit [www.townofboone.net/departments/planning-inspections/special-flood-hazard-areas](http://www.townofboone.net/departments/planning-inspections/special-flood-hazard-areas).

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**Marisa Mecke** is a Report for America corps member for Mountain Times Publications. Report for America is a national nonprofit service program which places journalists in local newsrooms to report on undercovered issues.

### Locations that failed to meet EPA standards for E. coli bacteria

According to the Watauga Riverkeeper's water quality tests, these locations failed to meet EPA standards for E. coli bacteria after flooding:

New River at Todd Island Park

Watauga River at Calloway Roa

Elk River Hickory Nut Gap



Price Lae

Ne River at Boone Greenway

Watauga River at Valle Crucis Park

Wildcat Lake

Elk River Falls

All Tailwater sites

Lovers Lane

Blevins

Hunter Bridge