

Stockton students participate in controlled forest fire, data collection

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GALLOWAY TOWNSHIP — Recent Stockton University graduate Marc Ellsworth walked along woods near the school Thursday pointing a heat gun at flames on the forest floor and reading out the temperatures.

"1,010 ... 1,078 ... 1,314," Ellsworth announced.

Stockton senior Justin Brennan recorded the temperatures on a clipboard.

Three students and one recent graduate, all environmental science majors, were participating in the most recent controlled burn of dead trees and bramble with the New Jersey Forest Fire Service, recording data for the school's forest management plan. Students and professors from a variety of fields use the tract for data collection and study. The plan was approved in 2013 by the state Pinelands Commission and was developed by Robert Williams of Pine Creek Forestry.

"This is one big experiment that's trying to show the public and our students, as a living laboratory, what the effects of fire are," said George Zimmermann, professor of environmental science and head of the forestry concentration at the school.

A crew with the Forest Fire Service used "drip torches" to spread gasoline in strategically mapped chunks. Some 20 acres of a 60-acre tract were burned, as was a different tract down the road earlier in the day. Forest Fire Service district Warden John Sanford said "bulldozer lines" that go down into the dirt along the edges of the burn area contained the spread of the fire. Time-lapse cameras secured to trees will keep track of the forest's growth after they leave.

"A lot of these areas are on different time cycles, so some get burned every year, some every three to four years," Ellsworth said. "And we're just seeing how that impacts the growth of the ... forest. What comes back, what doesn't come back."

The work will continue for decades past the original 10-year approval, Zimmermann said. About 1,200 of the school's 1,500 acres will be directly impacted.

In addition to forest fire research, faculty are studying an invasive species, the southern pine beetle, and working to minimize the risk of an actual forest fire, a welcome effect of their controlled burn of dead, dry things. And in time, the school hopes to diversify the ages of trees — mostly pitch pines — in the area.

The work is subject to the whims of weather. If there was rain in the days leading up to a burn, the ground could be too wet to catch fire. If the wind is moving in the wrong direction, the movement of the fire could be at risk.

The sweet spot for controlled burns is between October and mid-March or the beginning of April, Zimmermann said. Had the weather been uncooperative this week, the burn might have been postponed or skipped, according

to the crew. And if it wasn't spring break, Zimmermann said, more students would be out collecting data, and there would be a portable weather station and underground sensors on site.

There was plenty of work to do still. Students, faculty and crew wore yellow protective jackets moving through the woods as the fire's heat pushed out on to trails and smoke rose high above the tree line.

The students seemed engaged in the work, too, even if their classmates were gone for spring break.

Brennan's mother, a science teacher, studied environmental science at Stockton, too. He said the data analysis was fascinating, but working in the field and seeing how it's collected was a plus.

"It's cool seeing the numbers and how it all kind of works out," Brennan said. "But then actually seeing it in person and how it works, definitely is what does it for me."