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BAY JOURNAL

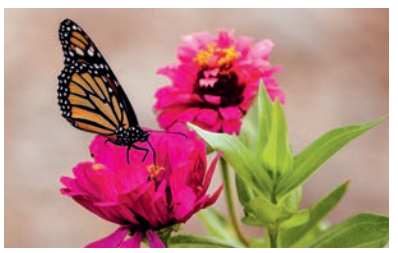
June 2025 Volume 35 Number 4

Independent environmental news for the Chesapeake region

Nearly $1 billion for flood prevention projects cancelled in Chesapeake region

Page 14

ALL HAIL POLLINATORS



Let's talk bees, butterflies and birds PAGE 40

STAND UP AND GO

A paddleboard adventure on an Eastern Shore creek PAGE 26

THE SPONGY MOTH WARS

New name, same tree-eating little caterpillar PAGE 16

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Goats: a gateway to environmental advocacy for two VA teens

Leesburg youths helped get town to drop glyphosate, bring in four-legged weed control

By Whitney Pipkin

It was the fireflies — or sudden absence of them — that got the attention of a pair of 9-year-olds in Leesburg, VA, in 2019.

Aila McGregor had already made a sign for the window of her family's townhouse in Loudoun County ("Wanted: fireflies to come back") when a neighbor knocked on her door. The woman, a member of the town's environmental advisory commission, had been trying to get the town to reconsider its use of broad-spectrum herbicides to curb weeds in the stream behind their residential development. She was starting a petition.

"She asked if I had noticed them spraying," said Michelle McGregor, Aila's mom, "and I said, 'Oh, you should get Aila to talk to them. She's so upset the fireflies are gone.'"

Elias Brock, a friend of Aila's who lives across the street, felt similarly.

The fireflies, he recalled, "just kind of stopped being there. I don't think we really knew why until then."

Aila McGregor and Elias Brock stand on the deck of the McGregor home in Leesburg, VA. Beyond the back yard is Town Branch Creek, where goats have been brought in twice a year since 2019 to control weeds. (Whitney Pipkin)

Soon, the children were hunkered over computers studying the effects of glyphosate on stream health, macroinvertebrates and, yes, fireflies. Glyphosate is a key ingredient in the Aquaneat brand of aquatic herbicide that they learned was being sprayed to control vegetation along Town Branch Creek, which runs through the McGregor backyard.

Glyphosate was registered as a pesticide in the U.S. in 1974. According to data from the U.S. Geological Survey, its use on agricultural fields skyrocketed in 1996 when Monsanto introduced genetically engineered crops that could survive higher doses of the herbicide, and its use plateaued around 2019. Aggregate data for residential or municipal applications of glyphosate products is harder to come by, but studies continue to raise concerns about its widespread use.

The U.S. Environmental Protection Agency has faced lawsuits in recent years over the chemical's potential impacts to human health, though the agency ruled its use to be "appropriate" in light of court decisions. The EPA does acknowledge, though, the chemical's ecological risks, including its "potential risk to terrestrial and aquatic plants, mammals and birds, and low toxicity to honeybees for most uses."

The town of Leesburg had previously deployed workers with weed trimmers and mowers to keep suburban sections of their streams from becoming overgrown, a measure that was required in this case by floodway regulations. But the steep, rock-lined banks of Town Branch Creek led to enough rolled ankles and other worker injuries that the town turned to herbicides instead.

It seemed there were no other good options.

That is, until Aila and Elias started their research. The 9-year-olds (now 15 and 16) stumbled onto the idea of using goats for weed control early in their Googling operation. They saw pictures of goats being used to clear invasive weeds from parts of Central Park in New York City. Initially, they laughed it off.

But the other options weren't great. Aila and her mom had begun training to become water quality monitors for their local stream and were learning about the impact of certain chemicals on the stream's benthic macroinvertebrates. Controlled burning to tamp down the weeds that sprang up along both sides of the stream wouldn't work because it runs right through residents' backyards. Hand-pulling several acres of rocky streamside wasn't feasible either.

"When we actually looked at the alternative methods, we were like, 'Honestly, goats are not a bad idea,'" Aila said.

The goats, they realized, would be uniquely able to navigate steep and rocky ravines to clear them of weeds.

Aila and Elias, then 9, visit the goats brought in for streamside weed clearing. They helped move the goats from one area to another. (Rebecca Brock)

Aila and Elias now attend Tuscarora High School in Loudoun County. They still live in the townhouse community — where goats grazing on streambeds has, six years later, become a biannual feature of the landscape. They can take some of the credit.

Before Aila and Elias appeared before the Leesburg Town Council in April 2019, adults had tried to get the council to consider alternatives to glyphosate. But something about the kids' message made the issue stick.

"It didn't hurt that they were really cute," said Elias's mom, Rebecca Brock, remembering a poem Elias had read to the council about glyphosate and fireflies.

A couple of weeks after the kids' presentation, the council passed a resolution discontinuing the use of herbicides to clear obstructive vegetation along town streambanks and guardrails. Soon, the town contracted with a goat farmer whose charges would spend several days clearing the steep streambanks of weeds.

"Using goats to manage unwanted vegetation on the East Coast has definitely gained popularity over the last 10 years," said Deb Dramby, a goat farmer and spokesman for Chesapeake Alliance for Sustainable Agriculture (CASA) Future Harvest. Her own goats work on larger conservation properties and farm estates elsewhere in Loudoun and Fauquier counties.

Using goats in urban and suburban environments, where people are more likely to interact with them, is a newer trend. And it can take some getting used to. When the goats first showed up to clear the stream behind the McGregor house, "it became an attraction," Dramby said, "like 'Have you seen the goats yet?'"

Aila and Elias did their best to work with the contracted goat farmer to educate residents about how to interact — or, better yet, not interact — with the animals. Moveable electric fencing is used to keep them where they are needed, and an additional outer perimeter of orange fencing is set up "to keep humans out," Elias said.

Since 2019, Aila and her mom have continued to volunteer as stream monitors, tracking the presence of benthic macroinvertebrates in Town Branch Creek twice a year and monitoring other streams one weekend a month. They watched Town Branch's health improve after the goats were introduced, but increased salinity now appears to be taking a toll, they said.

Elias has been working to add solar panels and other environmental initiatives at the historic church his family attends in downtown Leesburg. And both teens have been keeping an eye on the fireflies.

"There's definitely more than before," Elias said. "Not as much as there used to be, but I have seen more." ■