

Volunteers test the waters

Stevens Creek

Team of teens, young adults collects and analyzes data on Santa Clara County's stressed waterway

By Lisa M. Krieger

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CUPERTINO — A team of detectives studied the troubled waters of Stevens Creek on Sunday, collecting data that reveal the status of a route that once flowed wild, free and clean — but is increasingly threatened by urban growth.

“We want to see how healthy the creek is,” said Jeremy Merckling of the environmental nonprofit Acterra, who led a team of 10 volunteers to test the creek, which springs from the flanks of the Santa Cruz Mountains and flows through Silicon Valley on its way to join the bay. As the creek flows, it undergoes profound changes, they discovered.

Volunteers Jessica Hanks, 17, and Jason Gross, 23, and others dangled test equipment into the creek's waters and logged data onto a clipboard. Gabbie Burns,



Jeremy Merckling, left, instructs a group of volunteers Sunday at a place called Moss Rock on Stevens Creek in Cupertino during water quality sampling.

KARL MONDON/STAFF PHOTOS



A container of water is collected from the discharge at the Stevens Creek Reservoir by environmental volunteers measuring water quality samples along Stevens Creek on Sunday morning.

a 26-year-old software engineer, also helped. What they learned was added to a large digital database, which tracks trends.

They found that in the cold and gurgling upper reaches of Stevens Canyon, the water is cold, only 46.5 degrees Fahrenheit. But it warms after meandering through flat acres of concrete and asphalt; near Mountain View's La Avenida Street, its temperature reached 60.2 degrees.

They discovered other changes as well. Levels of dissolved oxygen fell. Salinity and pH levels shifted. And the water turns murky below Stevens Creek Dam because of clay particles that settle at the bottom of the reservoir, then are released. The water's cloudiness, called turbidity, "is not just ugly, it is a killer," said Acterra senior ecologist Joanne McFarlin. The group found elevated levels of turbidity as distant as 3 miles below the dam.

"Think how it could be for you if our air were chock-full of dust particles," she said. "We would not be able to breathe or see. It is the same for organisms which live in the creek," such as threatened steelhead trout. Native aquatic wildlife thrives best when water is cool, clear and rich in oxygen, she said.

The 20-mile-long Stevens Creek comes from several fingerlike tributaries that flow near the switchbacks of trails in Monte Bello Open Space Preserve. It empties into the 95-acre Stevens Creek Reservoir and then trickles past graygreen western sycamores on the rich floodplain of Mc-Clellan Ranch, once home to a tribe of Ohlones and later cattle, horses and orchards. After meandering past the concrete and asphalt of the valley floor, it empties into the San Francisco Bay — wild and rich with life, once more.

Stevens Creek is one of six local creeks where volunteers are trained to be ecologists by Acterra, based in Palo Alto. The group also monitors the health of San Francisquito, Barron, Matadero, Adobe and Permanente Creeks. They meet once a month. Some volunteers are part of school projects; others hear about the effort through the meetup group Nerds for Nature or the mother-daughter organization National Charity League. The group's adviser is retired U.S. Geologic Survey stream ecologist Steve Fend.

"All of the data makes us more aware of all that we do, such as car washing, that carries things back to the creek," said high school advanced placement biology student Hanks, of Mountain View, who

was joined by her mother and sister.

“I want to make sure the environment is doing well,” she said.

Gross, 23, earned a geology degree at Connecticut’s Wesleyan University and worked in Antarctica and Washington’s Mount Rainier National Park but was drawn to the creek project due to his love of local environmental action.

“I’m a big proponent of science communication and discovering the science in your own community,” he said. “There is a lot of potential in getting involved in your community and being an enactor of change.”

Acterra also leads a “biomonitoring” project in which volunteers collect samples of macroinvertebrates — so-called “creek bugs,” such as the flatheaded mayfly — to gain information on habitat health. Because some bugs are pollution-sensitive and others are quite tolerant, their populations can indicate a contamination problem.

The watchdog group worries about possible pollution from Stevens Creek Quarry, golf courses and local industries, as well as runoff from yard fertilizers, pesticides, dog waste and carwash soap.

“It all ends up in the creek,” Merckling said.

“We want to make sure there is nothing in the creek that shouldn’t be there,” he said. *Contact Lisa M. Krieger at 650-492-4098. Follow her at [Twitter.com/LisaMKrieger](https://twitter.com/LisaMKrieger) and [Facebook.com/ LisaMKrieger](https://facebook.com/LisaMKrieger).*



Natasha Kumaraswami dangles a water quality measuring sensor into the water discharge from Stevens Creek Reservoir with fellow volunteers on Sunday in Cupertino.

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