

Contaminants in headwater streams exceed EPA standards

Sycamore Ranch Winery captures top awards

By **ZEV BLUMENFELD** Staff Writer

A study conducted by a group of scientists and students at California State University, San Bernardino, concluded that Little Bear Creek — a headwater stream flowing into Lake Arrowhead — exceeded Environmental Protection Agency (EPA) recreational standards for E. coli and enterococcus.

Led by Assistant Professor Dr. Jennifer Alford, the group collected and tested water samples for contaminants. They aimed to find out if water met regulatory standards and understand how the land and environment influenced characteristics within tributary headwater streams entering Lake Arrowhead.

From August 2019 to August 2020, the group collected water samples from four locations in the Lake Arrowhead communities — Willow Creek, Orchard Creek and

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Dr. Jennifer Alford, an assistant professor in the department of Geography and Environmental Studies at California State University, San Bernardino gathers water data at one of the four Lake Arrowhead collection sites. (Photo by Zev Blumenfeld)



Gloria Loring - seen here at the 2019 Veterans Day observance at Arrowhead Ridge - will emcee this year's event on YouTube from her home. (File photo by Mary-Justine Lanyon)

Honoring those who have served our country

By **DOUGLAS W. MOTLEY** Senior Writer

Collecting awards is nothing new for Crestline's Sycamore Ranch Vineyard and Winery, and they've done it again by garnering eight awards, including the prestigious Double Gold Best of Class award for their 2018 Merlot at the recently held Central Coast Wine Competition.

In addition to their award-winning Merlot, Sycamore Ranch captured a Double Gold medal for its 2018 Ranch Red, Gold medals for its 2018 Primitivo and 2018 Syrah and Silver medals for its 2016 Syrah, 2018 Grenache, 2018 SGM (Syrah, Grenache and Mourvedre) and its 2019 Viognier.

"Another validation to what we are doing right at SRV (Sycamore Ranch Vineyard). This competition was entered by the best wineries on the Central Coast. The requirements were that our grapes had to come from the Central Coast AVA (American vinicultural area), of which 98 percent

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Wine server Chrystal Jones, along with wine aficionados Charlie Young, Ryan Elliott, Paige Amidon and Tanya Rodriquez, enjoy a flight of wine samples with winemaker Richard Krumwiede. (Photo by Douglas W. Motley)

By MARY-JUSTINE LANYON

For the past several years, members of VFW Post 9624 and its Auxiliary have planned an observance held at Arrowhead Ridge to honor veterans. This year, because of COVID-19 restrictions, such an event is not possible.

However, they will be holding a virtual observance. In addition, there are at least two other events honoring veterans being held.

VFW VIRTUAL OBSERVANCE

For the third year, Lake Arrowhead resident Gloria Loring will emcee the VFW post's Veterans Day program. However, this year she will do so from her home. The 17th annual event will be broadcast virtually on YouTube at 11 a.m. on Nov. 11. Organizer Joyce Rapp said folks should search for "2020 Veterans Day Celebration."

Loring will introduce the other participants, including the Mountain Fifes & Drums, and narrate the videos. Rim High student Neva Hidajat will participate through a showing of the video of her prize-winning speech in the American Legion oratorical contest.

Viewers will be able to join in on the



Large-mouth bass, brown and rainbow trout and other aquatic life have been seen in Lake Gregory's waters but a gator may be a first. An emergency brake failure is being cited as the reason a John Deere Gator utility task vehicle owned by the county rolled into Lake Gregory on Oct. 30. A team of personnel, including three members of the sheriff's dive team, worked for several hours to locate and then retrieve the UTV from the lake.

A crew from the Crestline Sanitation District used a four-wheel-drive pickup truck with a winch to pull the gator from the water. There were no injuries, according to San Bernardino County Regional Parks Director Beahta Davis. "The Gator is currently with fleet management. If they are unable to repair the vehicle then it will be replaced," she told *The Alpine Mountaineer*. (Photo by Mike Harris) Pledge of Allegiance, the singing of the national anthem and the service songs from the five branches – Army, Navy, Marines, Air Force and Coast Guard.

Brian Poyorena, a former Marine who is studying cybersecurity, is volunteering his time to assemble the various videos into a cohesive program.

"We hope to be back in person at Arrowhead Ridge next year," said Rapp.

A CELEBRATION OF THE MARINE CORPS' BIRTHDAY

In observance of the birthday of the Marine Corps – Nov. 10 – mountain Marines and other veterans will gather from 4 to 7 p.m. at Three Marm Brewing Co. in Crestline. All veterans are welcome to attend. Masks will be required, as will social distancing.

The U.S. Marine Corps started as the Continental Marines on Nov. 10, 1775. On that date, the Second Continental Congress decided that they needed two battalions of Marines to serve as landing forces with the Continental Navy during the American Revolutionary War (1775-1783).

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two sites along Little Bear Creek. The team operated on a bi-weekly basis during the drier summer months since fewer changes occurred without precipitation. During rainfall and snowmelt conditions, the group collected weekly samples, aiming to record data before and after precipitation events.

'Usually, after rain events, you see the bacterial counts decrease dramatically, especially after a prolonged dry period. The first inch of rain or so is going to wash everything out," said Jose Mora, an environmental chemist and San Bernardino University alum working with the group

Water samples were collected in 100 ml high-density polyethylene bottles, placed immediately on ice and transported to a lab. At the lab, the group added a reagent - a compound that attaches to the actual contaminant and changes color to indicate the presence of the contaminant.

The group tested for nitrate, ammonium, total coliform, E. coli and enterococcus.

E. coli tests at the first Little Bear Creek site averaged 302.46 cfu/100ml, more than two times the EPA standard. The average of all testing performed at the second Little Bear Creek site also exceeded the EPA standard for E. coli and enterococcus.

Dr. Alford surmised that the raised levels were likely attributable to sewer or septic leaks near Daley Canyon Road.

The group summarized their findings in the Lake Arrowhead Tributary Water Quality Community Report. The report requests watershed management to consider the effect of the San Bernardino Rimforest Storm Drain Project - a county project set to divert water flow away from Highway 18 and into Little Bear Creek.

Based on peer-reviewed literature, the approved stormwater project, moving water from impervious surfaces in Rimforest under Highway 18 and directly into Little Bear Creek, will result in increases in pollution concentrations and eroded soils into this headwater tributary system and downstream, eventually entering Lake Arrowhead," the report stated.

Polluted runoff, like that found in the group's testing, flows more readily into bodies of water the more impervious surfaces exist in the community - surfaces like the 311-space parking lot set to be paved in Rimforest.

FROM THE MOUNTAINS TO THE DESERT

On Oct. 20, Janice Rutherford and her fellow San Bernardino County Board of Supervisors approved the development of a 13.6-acre church campus in Rimforest. Church of the Woods, an evangelical church currently located on the north side of Lake Arrowhead, received permission to build the campus which - according to the county-mandated environmental impact report (EIR) includes a 311-space parking lot.

"[The] on-site flows contained within the natural drainage course exit through the center of the Project site," the EIR states about the Church of the Woods project. It continues, recognizing that the perennial stream located on the development site is the headwaters of Little Bear Creek.

Runoff flows from the site into Little Bear Creek, yet the county deemed these findings insignificant. Within the EIR, they cited the EPA's CWA Section 303(d) List, stated on the agency's website as "...the list of impaired and threatened waters that have been identified and reported to EPA.'

According to the EIR, neither Little Bear Creek nor Lake Arrowhead was identified as an impaired waterbody. A given waterbody receives the "impaired" label

through tests similar to Dr. Alford's. Those results may be



University of California, San Bernardino Students Darren Foley and Kelley Giron take water measurements

reported to the EPA by the State Water Control Board.

The State Water Control Board's 303(d) list does not mention any testing done on Little Bear Creek, positive or negative.

It does, however, mention Lake Arrowhead - 12 out of 15 samples exceeded the EPA criterion for mercury.

These effects may eventually extend beyond the Lake Arrowhead community.

Little Bear Creek flows into Lake Arrowhead which, in turn, drains into two creeks feeding Deep Creek. Deep Creek, an area with many fishing and swimming locations, feeds the Mojave River — a body of water coined by the Mojave Water Agency as "the lifeblood of the desert."

The local water source for the High Desert is runoff from the local mountain watersheds," the water agency states on its website.

Mora and Dr. Alford voiced concern about the impact more development would have on the watershed without stormwater better management practices (BMPs). These practices could include regularly maintained grass swales or bioretention basins — the keywords being "regularly maintained.

Additionally, though ammonium, nitrate and total coliform did not exceed standards on average in Little Bear Creek, they exceeded regulatory standards in multiple tests across all three sites.

'Too many nitrates in drinking water will deplete the oxygen in your blood, affecting typhoid and brain development in children," Mora said.

WHAT CAN THE COMMUNITY DO?

While increased runoff into these streams poses a health risk, Dr. Alford also stressed the economic risk. She urged people to be conscientious about how they may be contributing to potential water quality problems

'We're not trying to wag the finger at anyone because that's not helpful. We're trying to help the community understand what activities are contributing to various changes in water quality and how we can alter behaviors and activities to protect our community," she said.

Reporting septic or sewer leaks can help reduce potential harm.

"If you detect septic or sewer leaks on their property,

report it. I think a lot of people are wary of doing that because they think it might result in a large-scale cost," Dr. Alford continued.

She hopes there may be a method for people who report problems to get financial assistance.

Water agencies need to establish a rapport with the community that enables trust to be built and ensure that it won't be an economic hardship if an individual does report something," she said.

But reporting the problem is only half of the equation. At press time, Dr. Alford had shared her results with both the Arrowhead Lake Association and Lake Arrowhead Community Services District (LACSD). She said LACSD representatives "punted," saying that Little Bear Creek was outside of their jurisdiction.

Mora recalled his time working at a water agency in Rancho Cucamonga and noticing how infrequently they conducted tests.

They don't worry until something occurs," Mora said. "But it's cheaper to avoid the problem than deal with it after it's become a problem."

If the problem continues unmitigated, worsening effects will be seen, not just in streams but in Lake Arrowhead itself, and this economic impact may be overlooked by those who believe water testing is solely a health concern.

"Our community is reliant on people coming here and spending money," Dr. Alford said. She cautioned that neglecting mountain streams will deter tourism.

'Silverwood Lake is a great example. When that's not looking so [clean], their visitation rates are down. We need to be concerned about this over the long run. If we can't get these headwater streams and watersheds flowing healthy, then we can't have an expectation that water quality within lakes is going to remain healthy," she said.



Jose Mora and Kelley Giron wrangle a Vernier Optical DO probe used to measure the dissolve oxygen concentration in water. (Photos by Zev Blumenfeld)

Swimming in water with high levels of E. coli can result in stomach cramps, diarrhea, nausea, vomiting and low-grade fever, according to the Centers for Disease Control and Prevention.

"What we're trying to establish is a baseline," Dr. Alford said. "All we can do is test as frequently as we can, get as much data as we can and try to get people to understand over time what is happening and the trends. There are expectations of naturally what should be occurring and, when anything deviates from that, then that should be a call for concern.'



Akasha reopening celebration



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After being closed for several months due to COVID-19 restrictions, the Akasha Healing Center in Crestline hosted a grand reopening celebration on Oct. 30. The 12-hour-long party celebrated many aspects of the center, the classes that are offered through Zoom, products they sell and the lessons they will be teaching. There were hula and belly dancing demonstrations, as well as a woodcarving demonstration by Victor Hernandez. Akasha is now open for business on Thursdays, Fridays and Saturdays from 9 a.m. to 7 p.m. and Sundays from 11 a.m. to 4 p.m. For more information, visit www.akashahealingcenter.com. (Photo by Rhea-Frances Tetley)