



# Media Release

## **DNA testing for *E. coli* in American River traces most causes to wildlife, not humans**

### ***DNA evidence shows geese are prolific *E. coli* contributors***

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**SACRAMENTO** – The first phase of a DNA testing project to identify the leading causes of *E. coli* contamination in the Lower American River reveals that the main sources of bacterial contamination are birds and other wildlife, with negligible contributions from humans. The study will help inform regulatory decisions to protect water quality and the health of those visiting the river.

Water quality experts at the Central Valley Regional Water Quality Control Board have been gathering samples and recording DNA test results for the past two years to better understand the high *E. coli* results in the river, a popular destination for swimming, boating, rafting and fishing. To do this, the board utilized a technique known as microbial source tracking (MST), a technology that uses DNA evidence to identify sources of bacteria in waterways.

Results of [Phase I of the American River Bacteria Study](#) show that most of the 12 sampling locations of the 3-mile stretch from Paradise Beach to Sutter's Landing Regional Park meet statewide bacteria water quality objectives, and that this section of the river is generally considered of good quality for recreation. The one exception is the right bank at Sutter's Landing, where 100% of samples exceeded the state's bacterial objectives.

Even prior to the DNA testing project, the Central Valley Water Board performed extensive monitoring for *E. coli* in the Lower American. Sacramento County Regional Sanitation District (Regional San), Sacramento Area Sewer District, Sacramento Stormwater Quality Partnership, and Sacramento County Regional Parks partnered with the board to conduct the MST study.

“When our monitoring identified there was a problem, the next step was to use reliable DNA testing to pinpoint the sources of *E. coli* so the board and other agencies will have the data necessary to help protect this beautiful stretch of the river,” said Alisha Wenzel, engineering geologist at the Central Valley Water Board. “While public perception may have suggested that humans were a leading cause of the *E. coli* in the river, the DNA



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results for the Paradise Beach to Sutter's Landing section of the river so far show otherwise."

The Central Valley Water Board has continued to [monitor for \*E. coli\* and post public alerts](#) when levels exceed water quality objectives indicating high levels of fecal pollution. *E. coli* bacteria derive from animal or human fecal matter. Most *E. coli* are harmless, but they are a useful indicator for fecal contamination and the possible presence of pathogens.

MST analysis indicates that birds are the largest and most consistent source of contamination in this section of the river. The most prolific bird activity in and near the water appears to be Canada geese, which can land on the river in a large flock. In slow-moving sections of the river, the geese can stay for hours at a time and can cause elevated *E. coli* levels.

At Paradise Beach, a destination for residents of the nearby River Park neighborhood, dogs were found to be a consistent source of fecal contamination along the left bank of the river. Most of the sampling was taken near the banks and in shallow parts of the river, where people are most likely to enter the water.

Conditions are much better in the middle channel of the river where flows are swifter and the water is generally deeper – sampling shows the water is of high quality and meets statewide bacteria standards.

Phase II will tabulate results from Sutter's Landing to the confluence, where the Lower American empties into the Sacramento River. Initial findings are expected in spring 2022.

*The Central Valley Water Board is a state agency responsible for protecting water quality and ensuring beneficial uses such as aquatic habitat and human health for 11,350 miles of streams, 579,110 acres of lakes, and the largest contiguous groundwater basin in California.*

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