Located at the base of the San Bernardino Mountains, Lytle Creek is a popular recreational site. It is also an important source of drinking water for residence living in the Inland Empire. Both the West Valley Water District and the Fontana Water Company rely on Lytle Creek as a source of drinking water for the customers. Like many of California’s surface waters, Lytle Creek suffers from the presence of pathogens from unknown sources. Pathogens in surface water is both a public health and an environmental concern that is regulated under the Porter-Cologne Act; California’s legislation that implements the federal Clean Water Act. Lytle Creek remains on the official list published by the State Water Resources Control Board, known as the 303(d) list, as an impaired waterway.

In 2007, CALFED Watershed Program provided financial assistance to the Water Resource Institute (WRI) at California State University San Bernardino (CSUSB), to implement a program that includes monitoring limited aspects of water quality in Lytle Creek. Led by Dr. James Noblet, an Associate Professor of Chemistry and Faculty Chair of the Water Resources Institute, the Lytle Creek Watershed Assessment and Restoration Program began in December of 2007. The program is set for a two year process to collect and analyze water samples at Lytle Creek. Dr. Noblet selected five sites for student to collect weekly water samples that are being analyzed in his laboratory for the presence of fecal indicator bacteria. Student interns employed at Watershed Management Internships are assisting Dr. Noblet with collecting samples and performing laboratory tests. Five locations were chosen with three objectives in mind:
• A location that has above ground flow for most of the year
• A location immediately downstream of heavy recreational use.
• Keep number of samples as low as possible to maximize the frequency of sampling.

Since May 2008, water samples at Lytle Creek have been assessed on a weekly basis and conducted by students. Students are trained to use various procedures of analyzing samples for the presence of pathogenic organisms. Every week, at each station, four water samples are collected. Two samples are split between Total Coliform and E. coli analysis which are bacteria indicators. Third sample is used to indicate total organic carbon and the fourth is to be used for the remainder laboratory analyses. Once samples reach the Water Quality Laboratory in the Department of Chemistry and Biochemistry, students perform the following tests. For the determination of fecal indicator bacteria, students and staff use enzyme substrate-based methods. EPA approved methods included Colilert® and Enterolert™ (IDEXX laboratories, Inc.). Along with Quantitray and Quantiray 2000 are methods used to measure total coliforms, E. coli, and Enterococcus. Additionally samples are analyzed for total dissolved solids, total organic carbon, anions, total phosphorus and total nitrogen.

The WRI staff has also implemented various public outreach efforts to educate visititors to Lytle Creek about being better stewards of Lytle Creek. The objective of the public outreach program is to identify Best Management Practices (BMP’s) that can be implemented to address the presence of pathogens.