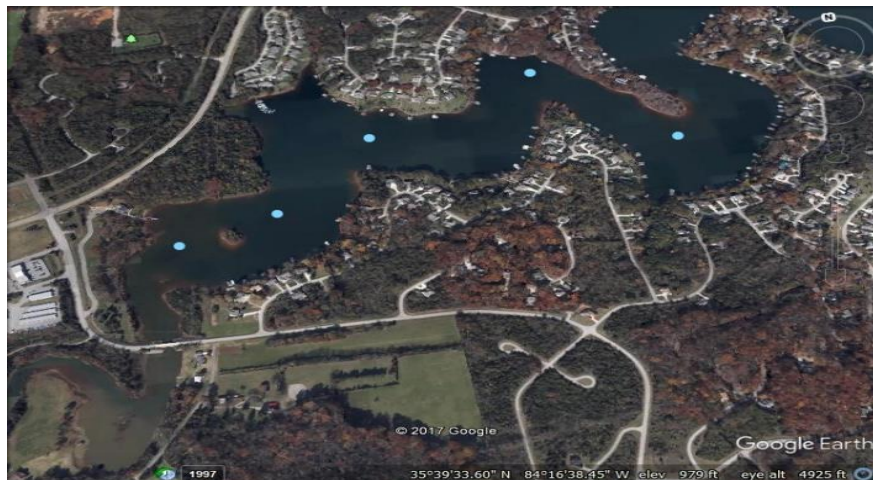


Bacteria Concentrations in Embayments of Tellico Lake

While water quality samples periodically collected in Tellico Lake have consistently revealed exceptionally low concentrations of E. coli bacteria, samples from tributary creeks flowing through rural agricultural areas have revealed levels of E. coli well in excess of the limit specified for recreational use. Much of these areas are used for grazing, and cattle often have access to the streams. Extensive effort and resources have and are being devoted to assisting farmers to improve the water quality of these streams, but this is a slow process.

Three creeks that are classified with elevated levels of E. coli discharge into embayments of Tellico Lake in the vicinity of large communities. These embayments are popular recreational areas for swimming and boating. WATeR recognized that no data were available to evaluate bacteria levels in these transition zones from polluted to clean water.

To provide residents and boaters with guidance regarding water contact in these embayments, WATeR designed a plan to sample for bacteria for a variety of conditions throughout the recreational boating season. In 2016, samples were collected monthly for seven months at three locations in each of three embayments – Baker Creek Embayment (Foothills Pointe), Bat Creek Embayment (Rarity Bay), and Fork Creek Embayment (Tellico Village). To define the duration and extent of possible E. coli contamination of an embayment following a heavy upstream rain event, WATeR collected samples at five sites for five consecutive days in the Fork Creek Embayment immediately after a heavy thunderstorm in 2017. The sample locations in the Fork Creek Embayment are presented below:



These data show that for most days in the swimming/boating season, bacteria levels were low in all three embayments. However, following a heavy rain event, people should be cautious in contact with water in the shallow end of an embayment where creeks enter the lake. Additional information on WATeR's sampling of the bacteria of these embayments can be found in the report on this website entitled *Water Quality Investigation of Three Embayments of Tellico Reservoir, March 2017, Addendum April 2018*.