TARLETON STATE UNIVERSITY
Timberlake Biological Field Station

DETERMINING THE PRESENCE AND CONCENTRATIONS OF EPA SEMI-VOLATILE ORGANIC COMPOUNDS IN THE COLORADO RIVER

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Over the summer of 2019 a study was conducted researching the ecotoxicology of the Texas Colorado River. Much of the Colorado River serves as an important contributor to the Texas economical system. The Colorado River, and its many watersheds, provide farming irrigation, cooling systems for power plants, aids in manufacturing systems, and provide a primary source for some of Texas most influential cities. Due to the vitality of the Colorado River concerning Texas living and economical standards, acquiring an understanding of the water quality is crucial in order to maintain the current ecological conditions. Establishing a better understanding of the presence of pesticides, herbicides, and pharmaceuticals in the Colorado River before and after the San Saba River confluence ultimately alludes to the overall anthropogenic nature of the River as a whole. In finding the presence of such chemicals, an obvious conclusion is that they contribute to the volatility that fuels the ecotoxicology of the Texas Colorado River. A Series of two sample sets were taken both before and after the San Saba watershed confluence testing each sample using Gas Chromatography (GC) and Mass Spectrometry (MS). The resulting volatile substance levels detected by the GC and GC-MS prove that there is an undeniable presence of anthropogenic chemicals contributing to the ecotoxicology of the Colorado River.