Quantifying Precursors to Algal Blooms in Lake Sidney Lanier

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Lake Sidney Lanier is a 38,000 acre reservoir on the Chestatee River that provides flood control, recreation and fresh water for Atlanta and Gainesville, among other municipalities. The lake is situated in an area that is rapidly growing and many of the smaller coves are affected by the development on their shores and from the creeks feed into the coves. The Flat Creek branch of Lake Sidney Lanier drains runoff from a section of Gainesville that is industrial. The aquatics research team at the University of North Georgia seeks to determine what types of algae become more abundant in the presence of nitrates and phosphates depending on the season. These nutrients being a primary growth factor, lead to larger populations of algal blooms and are commonly found in pollutants such as runoff and fertilizers. Our research team has collected preliminary data to set a baseline for basic water quality parameters such as: available light in the photic zone, concentrations of chlorophyll, nitrates, and phosphates. This data may indicate an increase in algal growth over time due to the industrial runoff.