

MICROCYSTINS OCCURRENCE IN WADEABLE STREAMS IN THE SOUTHEASTERN UNITED STATES

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The presence of potential toxin-producing cyanobacteria has been documented in multiple stream assessments conducted by the USGS throughout the Southeastern US during 1993-2011. However, fluvial cyanotoxin occurrence has not been assessed systematically in the region. To begin to address this gap, the USGS Toxic Substances Hydrology and National Water Quality Assessment Programs conducted a spatial reconnaissance of fluvial microcystin concentrations in 75 wadeable streams during June 2014. Microcystins were detected (ELISA; MDL = 0.10 µg/L) throughout the region. The persistence and temporal variability of microcystins were assessed monthly through October 2014 in five of the streams where microcystins were observed in June and in one reference location. Microcystins were repeatedly detected in all but the reference stream. The widespread occurrence of microcystins observed in this reconnaissance demonstrates the need for further investigation throughout the Southeastern US and in fluvial systems, in general.

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