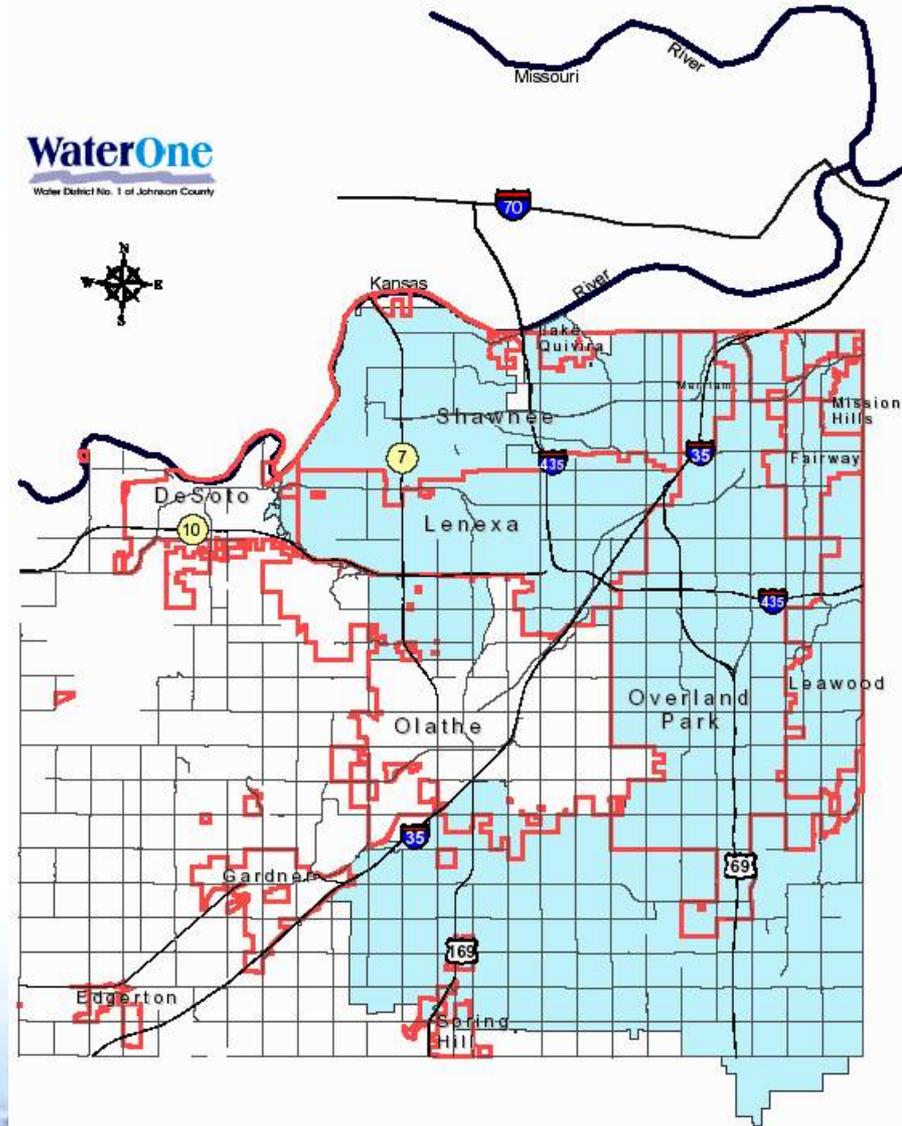


Drinking Water Implications of Cyanobacteria on the Kansas River to WaterOne and other utilities

What is WaterOne?

- 💧 Serve over 400,000 persons
- 💧 Approximately 135,000 service connections
- 💧 Directly supply 16 cities
- 💧 Treatment capacity of 180 mgd

WaterOne
Water District No. 1 of Johnson County



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Background

- ◆ Taste and Odor issues have periodically occurred for years on the Kansas River.
- ◆ After Major T&O event in Fall of 2010, USGS proposes a study in January, 2011 at request of utilities.
- ◆ Summer of 2011 Milford Lake closed to the public due to concerns over Blue Green Algae and their toxins.
- ◆ Corps announces major water releases from Milford Lake during same period.
- ◆ Drinking Water Utilities become concerned about potential for toxins in their water source.

Collaboration by USGS, Water Utilities, and the Kansas Water Office

- ◆ Topeka, Lawrence, and WaterOne request assistance from USGS to determine if Blue Green Algae products were being transported from Milford Lake to their intakes.
- ◆ Utilities and Kansas Water Office agree to partner with USGS to fund testing.
- ◆ Testing included treated drinking water from the three utilities.
- ◆ Microcystin detected at all intakes, but not detected in treated drinking water.
- ◆ Utilities used the weekly data to make treatment decisions.

Lessons Learned from the Study

- ◆ The utilities learned that water quality released from the reservoirs significantly impact their water sources in the Kansas River .
- ◆ The study confirmed that Taste & Odor were not the only consideration for water quality at drinking water intakes.
- ◆ Utilities have initiated ELISA Microcystin testing in their labs to collaborate with monitoring data received from USGS.
- ◆ Utilities are sensitive to the public communications issues relative to the presence of Blue Green Algae By-products in the river.
- ◆ The data is stimulating further discussion of the best methods for treating drinking water in light of these additional water quality parameters.

Ongoing Collaboration

- ◆ Topeka, Lawrence, Olathe and WaterOne partnered with the Kansas Water Office and the USGS on a five year study of the Kansas River to monitor for Blue Green Algae and its by-products.
 - ◆ Monitoring data is used by utilities to evaluate water quality.
 - ◆ Online WQ data now available from 2 key gaging stations.
 - ◆ Developing correlation between in depth weekly monitoring and online water quality data
- ◆ Exploring possibility of Tailored Collaboration Study with the Water Research Foundation for companion project on Water Treatment Efficacy for Algal Toxin Removal.