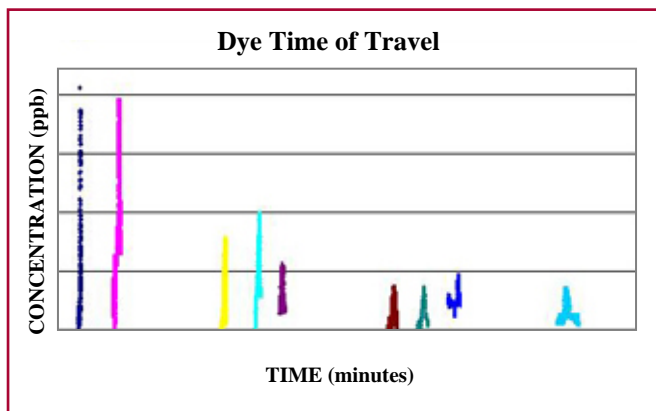


## Project Description: Total Maximum Daily Load Study Arkansas River Near Muskogee, Oklahoma



**AquAeTer** conducted a nutrient total maximum daily load (TMDL) study on the Arkansas River near Muskogee, Oklahoma. Wasteload allocation studies were conducted on a river/lake system that was highly influenced by both upstream and downstream dam releases. Water quality, hydrologic, hydraulic, bathymetric, biological and chemical data were collected on the River. The USEPA approved model RIV1 was used to calibrate a model and provide projections of available capacity during 7-day 2-year low flow periods. The simple steady-state model originally used by the State had shown that the River had limited capacity, but the dynamic model more accurately projected that their was capacity remaining within the River's waste loadings.

**AquAeTer** provided the following services to its client for this TMDL study:

- Algal analyses including total chlorophyll measurements, algae identification, and algae biomass;
- Bathymetric profiling with global positioning system (GPS);
- Algal analyses including total chlorophyll measurements, algae identification, and algae biomass;
- Sediment oxygen demand (SOD) measurements;
- Diurnal water quality measurements;
- Water quality measurements and water sample collections for nutrient and chlorophyll measurements with dye time of travel;
- 90-day time-series biochemical oxygen demand (BOD) tests; and
- Dynamic water quality modeling.

