Regional Water Quality – Water Quality in Central Arizona Source Waters
Emerging Contaminants Scenario –Indicator Bacteria, *Mycobacterium* and *Legionella*

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PROJECT: ASU-02-2014 & ASU-01-2009

Status: New X Continuation

Objectives

- To provide continued insight into the dynamics of conventional water quality parameters, algal-related contaminants and emergent contaminants such as *Mycobacterium, Legionella & E. coli* in central Arizona source waters. In addition, seasonally and the incidence of invasive quagga mussel is also monitored.

Approach

- Analyses includes taste and odor compounds, DOC, UV254, TDN, conductivity, nitrate/nitrite, metals & DO
- *Mycobacterium, Legionella,* and indicator bacteria.

Key Deliverables

- Monthly newsletters are distributed to over 70 recipients. The provided information is helpful for the water suppliers to determine trends that impact both disinfection by-products and taste and odor compounds.

Key Findings

- This projects has contributed to enhance the understanding of spatial and temporal variation in the physicochemical and microbial quality of source waters in central Arizona

Key Findings

- The DOC levels in Arizona Canal and South canal were 2.5-2.8 mg/L and 1.5-2.9 mg/L, respectively.
- The DOC levels in Saguaro and Bartlett lakes were 4.3-4.7 mg/L and 2.8 mg/L, respectively.
- The highest levels of MIB were observed in Saguaro Lake (7.5-9.6 ng/L) and 24th Street WTP Inlet (8.3 ng/L)
- Microbial concentrations have significantly decreased since September 2018
- The coliforms concentrations remained significantly lower (248-752 cfu/100ml)
- The *Mycobacterium* concentrations ranged from 0 to 15 cfu/100mL
- Changing water sources combined with lower temperatures are likely reasons for the decrease in microbial concentrations.

Budget Requested

- $45,000

Project Duration

- January 2009 – December 2019