

Case Study

USGARW-99.001
USGARW-99.002

IXOM
WATERCARE

Iron, Manganese and Cyanobacteria Control in Source Water

SolarBee® Lake Circulators provide improved water quality for over 19 years!

Topics: cyanobacteria, blue-green algae, taste & odor, hypolimnetic oxygenation, manganese (Mn) and iron (Fe)



Reservoir Overview: (2) reservoirs feeding a conventional sediment filtration water plant.

Reservoir 1

Surface Area: ~19 acres
Average Depth: 7 feet
Max Depth: 10 feet

Reservoir 2

Surface Area: ~40 acres
Average Depth: 8 feet
Max Depth: 15 feet

Pre-Deployment Conditions: Both reservoirs experienced very high concentrations of manganese (Mn) (up to ~0.9 mg/L) and iron (Fe) (~1.7 mg/L) in the winter months.

These reservoirs also had a history of cyanobacteria (blue-green algae) blooms and taste & odor problems due to cyanobacteria release of MIB and geosmin during the summer.

Project Objectives: To increase dissolved oxygen concentrations in order to oxidize and lower concentrations of soluble manganese and iron in the winter. Also to control blue-green algae blooms and prevent associated taste and odor problems in the spring/summer/fall.

Solution: Two (2) SB10000 Lake Circulators, one in each lake (June 2004)

Results: During the first year, manganese concentrations were lowered to ~0.05 mg/L and have remained low ever since. Cyanobacteria blooms and associated taste & odor issues have also been controlled. Both the operator and the water district are happy with the much improved water quality and the ongoing after-sales support.

Update (April 2016): Customer reported that “everything is going great” for both reservoirs.

Update (July 2019): Customer reported the equipment is running well and their water quality is good.

Update (July 2021): Customer stated they will eventually be changing to a new water source in 3-5 years. They continue to be happy with the equipment and the water quality results.

Did you know?

**SolarBee® Circulators & Mixers
have a design life of 25 years!**