

90% less algae in the potable water of Superior, Colorado

Town of Superior was named after the "superior" quality of coal found in the area. The town's raw water supply delivers water to approximately 12,483 citizens. In 2020 MPC-Buoy was installed to monitor and control algal blooms in Terminal reservoir.



- ✓ 90% chlorophyll-a reduction within 2 weeks
- ✓ Chlorophyll-a remained below 2µg/L throughout hot summer
- ✓ Turbidity levels (NTU) remain below 1

Improving drinking water quality

Town of Superior receives most of its raw water from snowmelt in the Upper Colorado River. The water travels through a sequence of canals and pipes before making its way to the storage reservoir at the water treatment plant south of Original Town. The drinking water supply is stored before being treated for consumption at the Terminal reservoir.

This reservoir can hold approximately 130 million gallons (about 400 acre-feet) of water. On average, the Town treats about 2 million gallons of water per day and supplies it to 12,483 citizens.



Figure 1: Town of Superior's drinking water reservoir can hold approximately 130 million gallons of water.

In April 2020, the Town installed LG Sonic's MPC-Buoy system, with the goal to keep the water supply free of algal blooms. Ramey Environmental Compliance, a company that provides water treatment services to the municipalities in Colorado, ensured flawless installation and maintenance of the system.

Even though summer 2020 was one of the hottest, algae remained at very low, healthy to the balanced ecosystem, levels. Chlorophyll/pyocyanin dropped to below 2µg/L and Nephelometric Turbidity Units (NTU) remained below 1µg/L after only two weeks of treatment. There were no issues with taste and odor compounds since the installation of the MPC-Buoy system. It is worth noting that Town of Superior earlier tried ultrasonic buoy systems of a different company, which did not deliver satisfying results.

"The LG Sonic Buoy that the Town of Superior installed in the spring of 2020 worked fantastically. We did not have any taste and odor issues at all during one of the hottest summers on record which can produce vast amounts of blue-green algae. The MPC-view that is part of the system provides real-time reporting via cellular internet on what is going on in the reservoir. As pH and dissolved oxygen would rise and turbidity increasing, the MPC-view would provide an email notifying us that the unit was sensing that the algae was growing and then would change the sound waves to keep the algae from rising to the surface to complete photosynthesis. We definitely satisfied on this purchase."

Wayne Ramey, President Ramey Environmental Compliance