

Algae reduction in Lake Qaraoun

After dealing with algal blooms for years, World Waternet and the Litani River Authority installed 11 LG Sonic systems to cover the northern part of the 12km² Lake Qaraoun. Two months after the start of the project, the algae have been reduced by 50%, with higher results achieved in later months.

Drinking water reservoir, World Waternet/Litani River Authority, Lebanon



- ✔ 50% algae reduction within two months
- ✔ Real-time insights into the water quality
- ✔ Improved water quality

The Challenge: Control Algae Problems

Lake Qaraoun is the major drinking water source for 1.3 million citizens living in the region of the Bekaa and the South. The lake has been heavily polluted by municipal waste and wastewater, resulting in high levels of blue-green algae in the lake, which release harmful toxins and damage aquatic life.

Algal bloom treatment in a water surface as large as the Lake Qaraoun proved challenging for World Waternet. The option to use chemical treatment was quickly eliminated. It would be impossible in terms of budget and operations to dose the entire reservoir multiple times a year with chemicals. It was also important to not cause any damage to the environment by using potentially harmful chemicals.

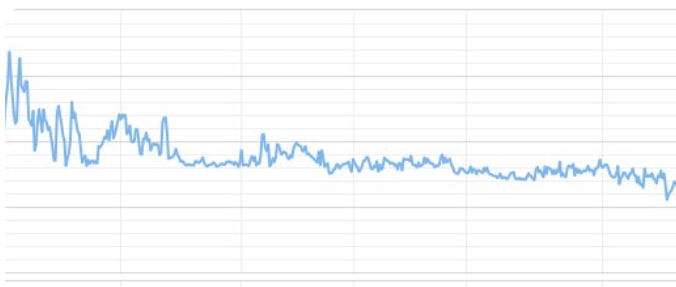


Figure 1: MPC-View software shows Chlorophyll a levels reducing due to the ultrasonic algae treatment

The Solution: LG Sonic Ultrasound

World Waternet selected MPC-Buoy systems to control algal blooms due to its chemical-free technology and real-time water quality monitoring capabilities which allow insights into important water quality and algae parameters. The collected data is delivered in real-time to web-based software, which is used to make predictions about algal growth in the lake and develop specific ultrasonic programs.

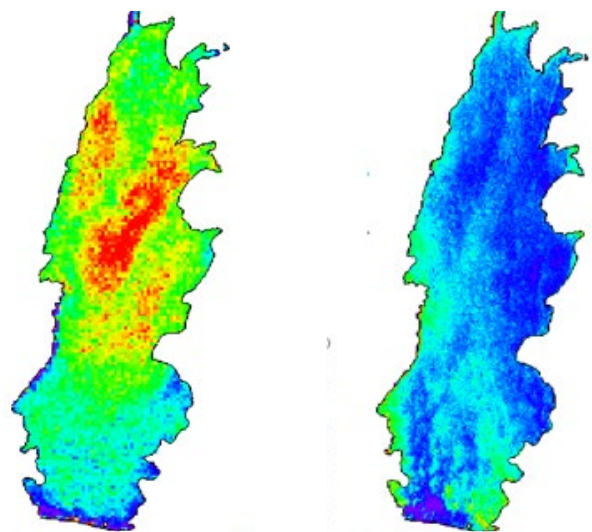


Figure 2: Estimated blue-green algae concentration of Lake Qaraoun, Lebanon. The left image shows the concentration before the treatment. The right image shows the reduced blue-green algae concentration after the treatment started.