Lake Management Report

Synopsis

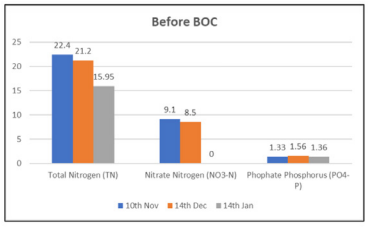
An artificial waterway within a community, supplied by a nearby sewage treatment plant, faced challenges with biological contamination risks despite advanced filtration and chemical treatment systems. The heavy reliance on chemicals increased operational costs and impacted system longevity. Bio Catalyst Middle East was engaged to provide a sustainable solution using Green Chemistry and Nano Technology, aiming to ensure regulatory compliance, reduce costs, and safeguard health.

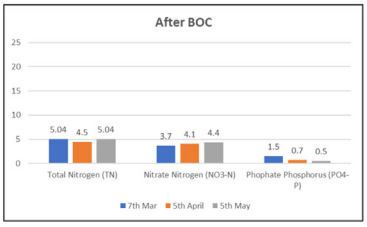
Background

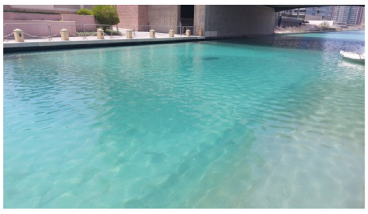
The waterway, designed to enhance community aesthetics, received treated sewage effluent, which still posed contamination risks. Existing systems, including membrane filtration and chemical treatments, ensured water quality but were cost-intensive and chemically reliant. This approach not only escalated operational expenses but also affected the health of operators and residents. A sustainable, eco-friendly solution was needed to address these challenges effectively.

Results

The implementation of Bio Catalyst led to significant improvements. Dissolved oxygen levels increased by over 50%, enhancing water quality. Free residual chlorine could be maintained with reduced chemical usage. Water analysis showed reductions in total nitrogen, nitrate nitrogen, and phosphate phosphorus, confirming the positive impact. Operational expenses were reduced by over 19%, achieving cost savings and sustainability.







Conclusion

Bio Catalyst has successfully improved water quality and operational efficiency in the waterway. The increased dissolved oxygen and reduced contaminants confirm its effectiveness. The sustainable approach not only ensures regulatory compliance but also reduces operational costs and safeguards health, making it a viable solution for water management.

Case Study by: Bio Catalyst Middle East