MEXICAN GOLF COURSE IMPROVES WATER QUALITY AND CLARITY WITH MOLEAER'S INNOVATIVE NANOBUBBLE SOLUTION

Las Lomas Golf Club, located in Guadalajara, Mexico, was suffering from unsightly and malodorous algae in the lakes and ponds at the course. Algae growth in water is common in bodies of water with continuous exposure to sunlight, poor circulation, and low oxygen levels. These conditions provide the perfect anoxic and stagnant environment, increasing the nutrient cycling rate in the sediment. The lack of oxygen in combination with excess nutrients in the water, particularly phosphorus, create the ideal environment for harmful algae blooms (HAB) to occur. The algae cause the water to have a green appearance and foul smell, causing a negative impact to the golf course and its patrons.

Typical treatment options include the addition of costly chemicals, which can be harmful to the environment. Increasing the dissolved oxygen (DO) of the water throughout the water column is important to restoring ecosystem health as oxygen is the best way to reduce the nutrient cycling caused by anoxic conditions at the bottom of a lake and promote the healthy beneficial organism . Las Lomas wanted to evaluate their options before implementing a solution across the entire property. Having heard of Moleaer's success with rapidly elevating and sustaining DO levels in lakes and ponds and the benefits this provides to water bodies, Las Lomas wanted to test the power of nanobubbles at their resort. In May 2018, they deployed a 200 gpm Moleaer nanobubble generator on one of their lakes to boost the DO levels.

Client:
Anguiano y Wong Asesores S.A. de C.V.

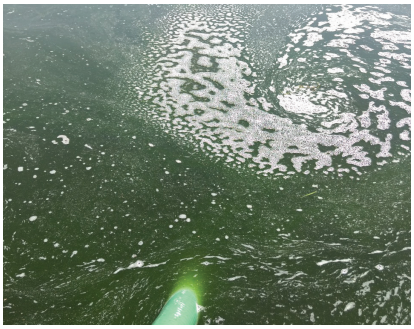
Type:
Aquatic Management

Unit Type:
200 GPM

Installed:
May 2018

Benefits:
Increased DO by 770%
Eliminated the Need for Chemical Treatments
Successfully Improved Water Clarity and Quality

Pond Size:
264,000 Gallons



Water conditions before installation of the Moleaer nanobubble generator.

Installation of the Moleaer nanobubble generator does not require submersion into the pond.

Accumulation around the shore was completely eliminated after 6 days, dramatically improving the water quality and clarity.

Moleaer's gas-injection technology produces trillions of neutrally buoyant, negatively charged nanobubbles approximately 100nm in diameter. At that size, bubbles stay suspended in water for long periods of time, efficiently mixing throughout the entire water column. This enables the nanobubbles to transfer oxygen with greater than 90% efficiency while also increasing the oxidation reduction potential (ORP). The nanobubbles effectively oxygenate the entire body of water in warm temperatures independent of depth, providing a distinct advantage over other aeration methods. The Moleaer system is simple to install and chemical-free, making it an environmentally friendly solution.

Before deploying the Moleaer nanobubble generator, the lake's dissolved oxygen measured at 0.46ppm. Over the course of six days, the DO of the lake rose to 4ppm, an increase of 770%. At some areas of the lake, the DO rose to 6ppm. The net effect was the rapid improvement of the clarity, quality, and odor of the lake.

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