

Aeration Case Study: Increased Oxygen to Promote Stratification Reduction

Heron Cay, a high-end gated residential development in South Florida, was experiencing a number of problems in their 21-acre lake which is central to the community.

With maximum water depths of over 20 feet, stratification in the lake created severely low oxygen levels at the bottom. The lack of oxygen left the lake with no beneficial aerobic bacteria to break down organics, heavy muck accumulation and foul odors from hydrogen sulfide gases were present as well. The lake was consuming what little available oxygen there was faster than it could be replenished, and excessive nutrient levels from fertilizer runoff only made conditions worse. The lake's Biochemical Oxygen Demand (BOD) was extremely high.

With the brunt of summer approaching, Heron Cay had a very real potential for a serious fish kill. Action needed to be taken, so the residents looked to Vertex to provide them with an efficient and cost effective method of bringing their lake system back to a healthy state.

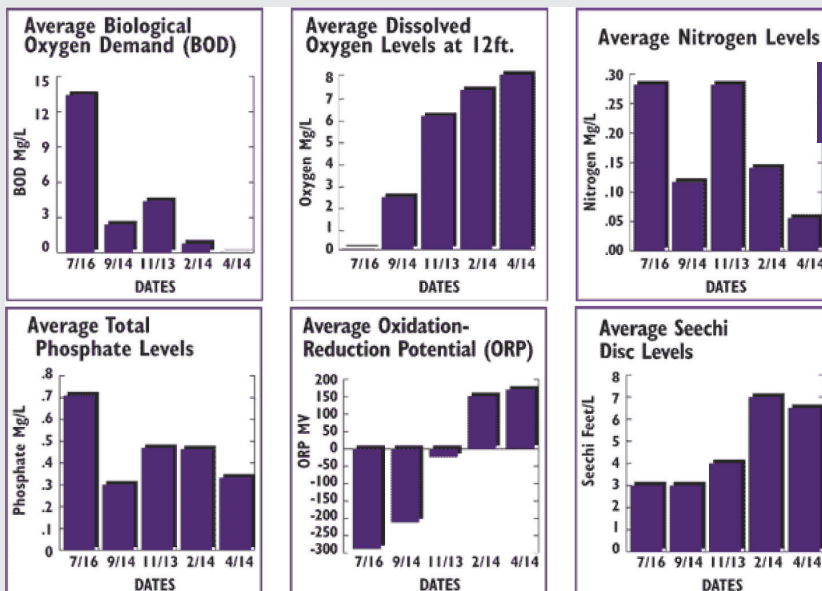


"I've never seen the lake look better"

- Mark Sanderson, President, Heron Cay HOA

Solution

A Vertex aeration system consisting of 11 diffuser stations being fed by compressors totaling only 2-1/4 horsepower, was installed and the lake was set up on a monitoring schedule to determine how lake dynamics were being affected.



Results

- ◆ Stratification was eliminated
- ◆ Increased Oxygen levels throughout the entire water column
- ◆ Decreased Biochemical Oxygen Demand (BOD)

The residents of Heron Cay are no longer in danger of oxygen-related fish kills, odors have been eliminated and the lake is returning to natural, healthy conditions.