Naturalake Biosciences

OXYGEN SATURATION TECHNOLOGY

Next Generation Aquatic Aeration System

Oxygen Saturation Technology (OST) is a state-of-the-art aeration system. The patent pending design dissolves oxygen gas directly into the water and releases it precisely where it is needed most. The OST's design eliminates bubbles, which eliminates turbulence, sediment resuspension, and undesirable mixing. These systems can maintain dissolved oxygen (DO) levels as high as 20 mg/L directly over and into the sediments, where oxygen is needed most, providing exceptional water quality not achievable with traditional diffused air/aeration systems.

OST can ensure desired DO concentrations are maintained regardless of water depth or climatic events because oxygen is generated directly on-site and qualitatively added to the water. Because of this, OST is the only aeration method that can guarantee a lake will never have an oxygen related fish kill.

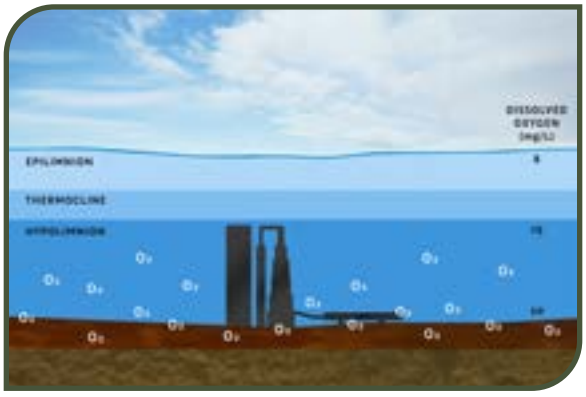

Diagram shows Naturalake OST distributing oxygen rich water throughout the hypolimnetic layer, blanketing and penetrating the sediment.

KEY BENEFITS & HIGHLIGHTS

- Dramatically increases oxygen concentrations (>80% saturation)
- Does not disturb sediments or cause unnatural mixing
- Automated runtimes save electrical costs
- Targets issues at the source
- Reduces muck and HABs
- Preserves thermal stratification
- Submerged to minimize footprint and decrease noise

To learn more about our Oxygen Saturation Technology, please visit www.naturalake.com or call 888.757.9575

OXYGEN SATURATION TECHNOLOGY DEVICE SCALING	*BASED ON 1 FT DEPTH
Water Body Size (Surface Area)	Device Scale
4 Acres or less (up to 10 kg/d O2 add capacity)	OST
4-10 acres (up to 20 kg/d add capacity)	OST Pro
More than 10 acres	Call for info on custom built systems

- *Oxygen Saturation Technology is a modular system that can be custom scaled to fit any size water body*
- *220 volts with 30 amp service per system required*

USES & APPLICATIONS, INCLUDING BUT NOT LIMITED TO:

- Lakes and ponds
- Aquaculture
- Drinking reservoirs
- Stormwater ponds
- Mining
- Oil and gas
- Saltwater
- HAB Management
- Agriculture
- Canals
- pH control
- Ozonation
- Fish Kills
- Fecal coliform
- Odors
- Iron staining
- Sediment reduction
- Manganese control
- Cold water fisheries
- And more!

THE SCIENCE BEHIND IT

Water quality problems such as muck buildup, harmful algal blooms (HABs), fecal coliform, and odors all have one thing in common, a dissolved oxygen (DO) deficiency referred to as anoxia. Sediment oxygen demand (SOD), from accumulated sediments, is the primary source of oxygen loss and subsequently anoxia in lakes and ponds. Anoxic Sediments are also the source of many water quality issues; muck accumulation from organic deposition greater than the rate of decomposition, results in the release of metals, such as iron (Fe) and manganese (Mn) nutrients like phosphorus which fuel algae growth, and malodors from hydrogen sulfide formation.

Water quality management strategies related to these common problems all focus on adding oxygen. OST is designed to exceed oxygen demands by dissolving oxygen directly into water via gas dissolution chambers.

OST is designed to dissolve all the oxygen generated from an on-shore compressor into water; therefore, eliminating and preventing the release of any bubbles. Bubbles rising through the water column induce mixing. Mixing in turn creates turbulence, which can exacerbate oxygen demands, resuspend sediments, and deteriorate water quality and clarity.

This highly efficient technology allows for a precise concentration of oxygen to be maintained continuously because it is automated to turn OFF or ON depending on in-lake oxygen levels. OST blankets the area of accumulated sediments often programmed/automated to maintain DO concentrations as high as 15-20 mg/L. High concentrations of oxygen provide exceptional water quality, not achievable with any other conventional aeration system in the market.

OST is a state-of-the-art technology designed to automatically treat the target problem areas directly when they need it most resulting in substanstial cost savings. Additionally, there is increased cost savings from less need of other surface applied products such as algicides.

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