



BLUE NANO TECHNOLOGIES, LLC



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ERIE LAKE TOLEDO, OH

Thank you for your interest in helping us solve the Hazardous Algal Bloom issues that have been plaguing our Nation for quite some time. Blue Nano Technologies has the knowledge, experience and equipment to help eradicate our waters of this problem. Together with our partners and the help of the community we will be able to provide a long term remediation solution to combat this ever growing threat.



OUR PROCESS

Our water treatment process is very simple. Water is pulled from the targeted water body and processed through our nano-bubble ozone treatment unit which is supplied by Environmental Compliance Equipment of Stuart Florida. Our treatment system will super saturate the incoming water with controlled amounts of oxygen/ozone by injecting the gases into nano-bubbles through the patented Anzai Nano-Bubble Injector.

The controlled oxygen/ozone gases are injected through the nano-bubbler to initiate the remediation of the Harmful Algal Bloom where oxygen levels have been depleted due to the “bad bacteria” present in the lake.

Throughout this process we will be on-site continuously monitoring the water for the following treatment level indicators:

- Dissolved Oxygen
- Dissolved Oxygen Saturation
- ORP Levels (Oxidation Reduction Potential)
- Chlorophyll a
- Phycocyanin (measure for Cyanobacteria)
- Temperature
- PH

As we monitor these treatment level indicators, we will make any necessary adjustments to our oxygen/ozone injections.

The system takes ambient air, compresses it and dries it. Next we extract the oxygen from the compressed air and pass it to the on-site ozone generator. The concentrated oxygen/ozone is then mass transferred to the nano-bubbler where it infuses nano-bubbles that are returned into the lake. We will continuously operate the unit until we reach treatment indicator levels where the lake can again begin to sustain itself. At this point, the “good bacteria” will consume nutrients that contribute to the algae bloom and “bad bacteria” known as Blue Green Algae/Red Tide which will then begin to die off due to the lack of nutrients they typically thrive upon.

The reason Blue Nano Technologies, LLC is so effective is that the Anzai nano-bubbler produces 98% of nano-bubbles in the 10nm - 97nm size range. These high density nano-bubbles will continue to sink and shrink and slowly diffuse remedial gas. Eventually implosion will occur creating hydroxyl radicals, that will further aid in cleaning the lake ultimately leading to the restoration of the water column. Please refer to the enclosed brochure for more information.





APPROVED EFFECTIVE IN TESTING

Blue Nano Technologies, LLC has achieved approval for a Large-Scale Algae Remediation Process. This approval has been provided by the American Marine University Research Institute (AMURI) under an exclusive Federal Cooperative Research and Development Agreement with the Hollings Marine Laboratory, a Unit of National Oceanic and Atmospheric Administration (NOAA). AMURI successfully tested and approved the process. This makes it the largest volume solution available in the marketplace for harmful algal blooms.



We are pleased to see a company like Blue Nano deploy the proven scientific efficacy of nano-bubble ozone technology to remediate harmful algal blooms (HAB) and other potentially toxic organisms that significantly impact human health and our environment.



— Dr. Peter Moeller, NOAA Principal Investigator and Emerging Toxins Expert



**AMERICAN MARINE UNIVERSITY
RESEARCH INSTITUTE**



Blue Nano has developed cutting-edge technology and a strong business foundation to be well positioned to apply real world solutions to the impending disasters facing our nations waterways.



— Jim Simons, AMURI President





POND TREATMENT RESULTS

There are many uses for this powerful cleaning technology which has been successfully tested in many bodies of water. The following three tables show the results of previous ponds that Blue Nano Technologies, LLC has treated.



PALM BEACH GARDENS, FL GOLF COURSE POND

SEP - 2019

POND TREATMENT RESULTS					
INITIAL PROBLEM- Low Dissolved Oxygen, Fish Kills					
TREATMENT INDICATOR	PRE 1 Result	POST 1 Result	Units	Delta Changes Pre to Post Result	% Change
pH	7.86	7.92	--	0.06	0.76%
Oxidation Reduction Potential (ORP)	145	261	mv	116	80.00%
Dissolved Oxygen (DO)	3.83	9.04	mg/L	5.21	136.03%
Dissolved Oxygen Saturation	51.2	119	%	67.80	132.42%
Turbidity	3.8	2.6	NTU	-1.23	-32.11%
Chlorophyll a	12.6	10.1	ug/L	-2.50	-19.84%
Phycocyanin (Blue Green Algae)	0.0	0.0	ug/L	0.00	NA

POTOMAC, MD GOLF COURSE POND

SEP/OCT - 2019

POND TREATMENT RESULTS					
INITIAL PROBLEM- Low Dissolved Oxygen, High Algae Levels, High Ammonia Levels					
TREATMENT INDICATOR	PRE 1 Result	POST 1 Result	Units	Delta Changes Pre to Post Result	% Change
pH	5.87	9.12	--	3.25	55.37%
Oxidation Reduction Potential (ORP)	138	233.1	mv	95	40.8%
Dissolved Oxygen (DO)	8.7	16.34	mg/L	7.64	46.7%
Dissolved Oxygen Saturation	0.4	199.7	%	199.30	49825.00%
Turbidity	143.0	10.6	NTU	-132.40	-92.59%
Chlorophyll a	31.1	4.8	ug/L	-26.34	-84.72%
Phycocyanin (Blue Green Algae)	18.0	5.3	ug/L	-12.77	-70.83%
Ammonia*	6.0	0.3	ppm	-5.75	-95.83%

*- Actual Reading was over 6 ppm

 CONTINUED...

POND TREATMENT RESULTS

Continuously monitoring the water treatment and recording treatment indicators gives us real time feedback of the effectiveness of the treatment process. Data logging measurements allows us to make adjustments as needed to our oxygen/ozone injections to help remediate the excessive algae allowing the lake to restore itself to healthy levels.



POND TREATMENT RESULTS				MICANOPY, FL FARM POND		NOV - 2019
INITIAL PROBLEM- Low Dissolved Oxygen, Total Fish Kill, Algae						
TREATMENT INDICATOR	PRE 1 Result	POST 1 Result	Units	Delta Changes Pre to Post Result	% Change	
pH	7.03	6.44	--	-0.59	-8.39%	
Oxidation Reduction Potential (ORP)	224.5	308.3	mv	84	37.33%	
Dissolved Oxygen (DO)	6.26	11.23	mg/L	4.97	79.39%	
Dissolved Oxygen Saturation	70.4	135	%	64.60	91.76%	
Turbidity	163.0	8.4	NTU	-154.64	-94.87%	
Chlorophyll a	631.4	35.9	ug/L	-595.46	-94.31%	
Phycocyanin (Blue Green Algae)	95.1	1.3	ug/L	-93.83	-98.64%	

POND TREATMENT RESULTS				WASHINGTON DC CONSTITUTION GARDENS		NOV - 2019
INITIAL PROBLEM- Low Dissolved Oxygen, High Algae Levels						
TREATMENT INDICATOR	PRE 1 Result	POST 1 Result	Units	Delta Changes Pre to Post Result	% Change	
pH	7.7	9.24	--	1.5	19.6%	
Oxidation Reduction Potential (ORP)	182.5	202.5	mv	20.0	11.0%	
Dissolved Oxygen (DO)	6.6	20.20	mg/L	13.6	208.2%	
Dissolved Oxygen Saturation	63.4	180.4	%	117.0	184.5%	
Turbidity	592.4	4.96	NTU	-587.5	-99.2%	
Chlorophyll a	80.7	39.13	ug/L	-41.6	-51.5%	
Phycocyanin (Blue Green Algae)	9.2	2.88	ug/L	-6.3	-68.7%	



WHAT WE DO

By combining nano-bubble technology with our experienced employees and research/distribution partners, Blue Nano Technologies, LLC is in an optimal position to execute on its mission of bringing high-tech environmentally friendly solutions to cleaning the country's water ways.





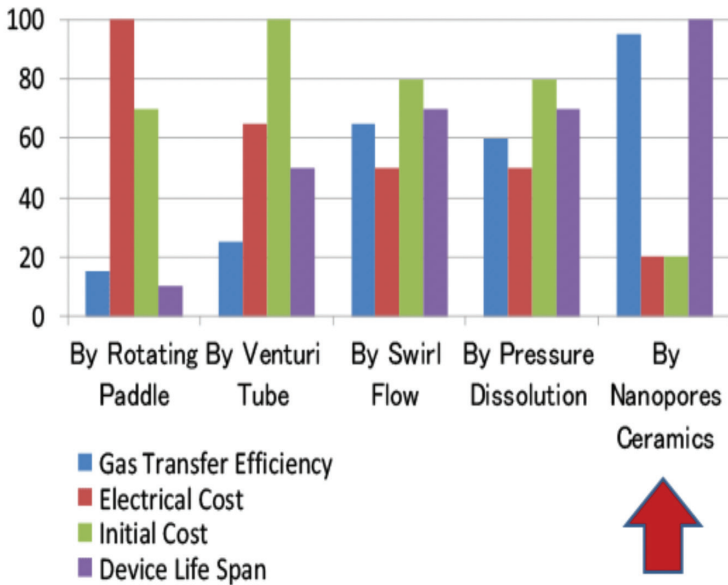
OUR SYSTEM IS FRIENDLY TO AQUATIC AND WILD LIFE

According to testing conducted by independent third parties there were no adverse effects on marine or plant life when utilizing our treatment technology. In fact, our nano-bubble ozone treatment process has been shown to increase the overall health of marine life in the treated area by increasing dissolved oxygen levels.





GAS TRANSFER DEVICE COMPARISONS



This chart compares the transfer of gas capabilities vs. the top competing units currently used today. The Anzai nanopores ceramics has far superior gas transfer efficiencies and significantly lower costs to operate and maintain.

SAVE LAKE ERIE

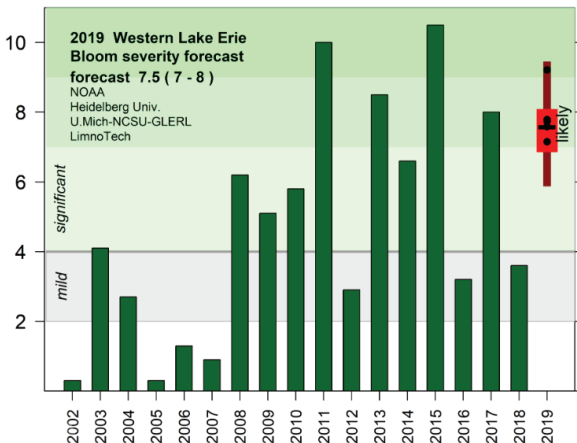


Photo credit: MERIS/ESA, processed by NOAA/NOS/NCCOS

It is no secret that Lake Erie has been experiencing a serious algae issue for many years that is only getting worse. The main cause if this is due to *Microcystis cyanobacteria* which produces the toxin microcystin. These dangerous bacteria can cause symptoms such as nausea, numbness, rashes and even liver damage in Humans and has been linked to death in smaller animals.

This year NOAA reported that there were unsafe levels of toxins in Lake Erie and advised the public as well as their pets to stay away from the water. Where algae blooms are present.

Blue Nano Technologies, LLC is capable of remediating this issue due to its scalability to handle the vast flow rates that would come with a job such as this. We are capable of achieving much greater flow rates that ever believed before due to our energy efficient, proven and tested Anzai nano-bubbler. The highest flow rate we can achieve per Nano-bubbler is 1584 gallons per minute, however we have the ability to add multiple nano-bubblers in line with each other. In doing this we are able to achieve theoretical unlimited flow rates with absolutely no moving parts in the generation process.





TOGETHER WE CAN

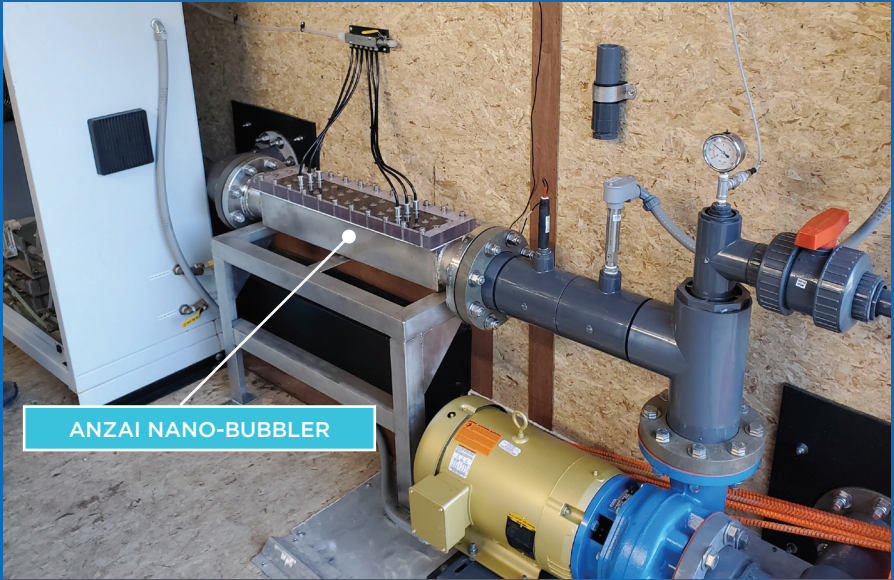


Blue Nano Technologies, LLC is passionate about cleaning America's waters. It is about time that wastewater treatment plants, power plants and other industries help supersaturate the water with oxygen they pollute, to reverse decades of damage. We finally have an efficient and highly effective way to help reverse the pollution of our waters. Thank you for your time and interest in Blue Nano Technologies, LLC. We look forward to hearing from you!



BLUE NANO TECHNOLOGIES, LLC

WWW.BLUENANOTECHNOLOGIES.COM



ANZAI NANO-BUBBLER

The Anzi Nano-bubbler sizes range from 1 - 1584 gpm flow rates. Pictured above is a 400 gpm unit.

For any inquiries or questions
on how this technology could help
your area please contact:

GREG CHAPAS • DIRECTOR OF SALES
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2019 Tested and Approved Technology*

*2019 Tested and approved by the American Marine University Research Institute (AMURI), under an exclusive Federal Cooperative Research and Development Agreement (CRADA) with the Hollings Marine Laboratory (HML), a Unit of National Oceanic and Atmospheric Administration (NOAA). Equipment supplied by Environmental Compliance Equipment (ECE) - a Veteran owned business. Made in the U.S.A.