

Aquacleaner

“Leaders in the field of Waterfront Restoration Technology”

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Waterfront Restoration Municipal Overview



Aquacleaner Environmental is on the leading edge of technology in the field of Suction Harvesting and Spot Dredging Equipment. Suction Harvesting offers the best short and long-term solutions to controlling and eradicating the spread invasive vegetation. Suction Dredging is the natural step in the restoration of any body of water because it removes the accumulated organic sediment with minimal impact in the water and upland. Our equipment is small and portable enough to solve a wide array of problems.

Services Available

Lake Wide Restoration
Pond Restoration
Beach Re nourishment

Storm Canal Clean Up
Pond Assessments
Flood Pump Outs

Environmental Clean-Ups
Dredging (spot dredging & large scale)
Boat House Pump Outs

Mission Statement

At UWS, our goal is to design, build and implement a new generation of machines that will aid in the reclamation of your water front property. We can remove problems that hinder the use of the your waterways, making them more accessible, while remaining conscious of our environment and the need to protect it. Regardless of the nature of each job, our equipment can restore your waterfront property to what it was years before all the debris filled it in. We surround ourselves with the best and brightest specialists in the waterfront restoration industry. Our staff all has personal experience and a passion for the water and the ecosystem it supports. Our equipment is based on fundamentally sound principals in keeping environmentally conscious. We perform various services and sell our equipment only after checking on all legal ramifications and procedures, always keeping in mind the delicate balance that exists between nature and man.

Our services are the most diverse in the industry and include:

Oceans, Canals, Lakes, Golf Course Municipal applications, Acid Mine Drainage, Landscape Agricultural Drainage, Oil Sheen, MTBE removal (marina's) and First Response/waste removal

No matter the size of the job, we will always operate with the highest levels of professionalism.

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The Aqua Cleaner System

The core of UWS's services comes from the strength and abilities of the Aqua Cleaner. The Aqua Cleaner's are several unique pump designs, one a Suction Harvester and the other the smallest Gas Powered Dredge Machine known as a suction dredge. Both machines come in several different size configurations depending on the required applications.

Aqua Cleaner Suction Harvester

A powerful suction harvester that operates with a man under the water extracting unwanted invasive aquatic vegetation by the rooting system so that they don't grow back as fast. Our Suction Harvester that is designed to suck up any type of solids that will pass through a hose. These include aquatic vegetation, leaves, rocks, zebra mussels, sticks and other debris The machine is equipped with a dual bagging system that allows the water to pass through them, while capturing the plants, rocks, sticks, leaves and assorted debris. This machine is an environmentally friendly means of dealing with an overwhelming problem.

Vegetation Capacity – 50 to 600 Square feet per hour depending on the type of plant, density, and rooting system. 5' x 10' pontoon with 2 pumps, diver air compressor and comes with a 4", 5" and 6" hose configuration.

Aqua Cleaner Octopus- A large pontoon boat (24' – 28') suction harvester designed for large vegetation and debris removal with multiple nozzles feeding it onto our large pontoon boat, where it can be de watered, and then shipped to a dump barge.

Aqua Cleaner Suction Dredge

This a unique designed portable suction dredge machine that will suck up silt, sand and other soft organic material. It uses water agitation to create a slurry and can pump over 1000' away without a booster. These machines are ideal for restoring your lakefront and home waterfront property or areas with logistical issues.

Bigger is not better when it comes to home, lakefront and waterfront dredging. One person, who stands in the water with a custom-built control rod, operates our dredge machine. We offer several configurations depending on the desired results. You can hookah dredge or use the water agitator to mix the bottom, and then goes through the suction hose and into our durable pump. It is the most environmentally sound method of dredging that is capable of removing between 20 – 30 cubic yards per hour (1 – 2 dump trucks). By working in the water you are the most efficient because you can manage all the debris that is mixed in with the sediment and work through your project much faster.

Aqua Winch – A portable, self contained winch with motor that can be placed at the waters edge and will pull up to 10,000 lbs items out of the water. When used with our Aqua Claw Rake it can remove large amounts of Cat Tails or other tuber rooted plants.

Aqua Cutter – A self-contained pressure water that will cut any organic rooting system, and is mounted on a small pontoon or operated on shoreline, and has a built in feeder pump.

Applications and Services:

Industrial:

Our industrial line of services is designed to offer a variety of services and applications using our unique technology and portability, getting into places that where access may be a concern. Our equipment can be carried in pieces and assembled on site and still handle an array of projects.

Emergency Response:

Our company currently has over a dozen machines on the East Coast and four motor homes that stand ready for emergency response work. We can have crews mobile within a 12-24 hour time frame. Our services include:

Hurricane clean ups – Our services are an invaluable asset when dealing with the after math of a Hurricane.

- 1) Our staff can clean debris in low lying water areas that might be in accessible
- 2) Storm water canals that are blocked
- 3) Beach clean ups, and re-nourishment
- 4) Removal of large volumes of water from streets and buildings
- 5) Spot dredge work in canals and other waterways.

Oil skimming- The Aquacleaner mounted on its pontoons makes the Ultimate first response weapon for all sizes of Oil spills. Through an additional series of filters and process's, we can skim water up, pass it through our machine and return water that is cleansed of most oil and it's residue

Municipal Applications:

Water Storage- Municipal Water Systems are always under the close scrutiny of the EPA. However any Treatment plan should start with a thorough cleaning of all storage tanks. These tanks contain large amounts of metals, MGD silt, calcium carbonate, magnesium silicate deposition, oxidized iron, maganeize, and other matter, which can cause your PH and metallic readings to spike and continually be off. Only through their removal will an accurate assessment and treatment of your facility be possible. Our patented membrane filtration system can treat 1000 GPM at 1.5 MGD at none detect levels up 5ppb.

- 1) Water Tanks and Holding Facilities- These areas should have regular cleaning to insure consistent water readings. Our divers can clean out an assortment of materials lying on the floor bed, from silt to sub micron particles.
- 2) Treatment Facilities: Any water intake system should have a regular cleaning of all inlets so to insure a steady flow through out the system and avoid potential spikes in chemical levels. Our divers can get into most areas to offer a through cleaning of metals, plantation and silt.
- 3) Acid Mine Drainage and Agricultural Grey Water – At UWS we have the ability to transform gray, waste or extreme acid mine drainage to potable drinking water standards

on site. This process implements on site purification rocks (smart sponges) coupled with a pump and treat process, to transform even the toughest source waters to drinking water standards. The process prevents pollution, leaking and leaching to return to the source. We Utilize Smart Sponges as alternative fuel in the production process of Portland cement. The Smart Sponge has been classified as a solid waste (non hazmat), and acceptable at subtitle landfills.

- 4) First Response – Our patented propriory system is implemented at 1200 GPM, and then is channeled through Smart Sponges designed to process the fluids into an absorbent median. This passive skimming process removes motor oil, grease, MTBE, and oil sheen to (awwa) drinking water standards. The Ultra Urban Filter process is designed to absorb and encapsulate any hydrocarbons or corsoneginics leaking into the source. This process is a long-term permanent remediation, as our process is ideal for pollution prevention and is safe to dispose of in household trash.
- 5) Waste and Storm Water – Our patented sub micron removal process includes the use of the CO 1414. This device creates the ability to transform even overflow storm water or pumped waste into drinking water standards, before line pond settlement. Furthermore, in high flow situations we can process waste storm water up to 500 GPM at (awwa) non detect levels. We also specialize in Waste to energy Facilities where solid waste is utilized as an alternative fuel in the production of electricity. Waste to Energy is a participant in the Dept of Energy’s National Renewable Energy Program.

Our Protocol:

- A) Survey the site, excess’s, volume, distances between inlets and outlets.
- B) Develop a site plan that accommodates the parameters of each location.
- C) Put a site team together that will execute the procedures.
- D) Have a removal plan in place that will keep up with our removal system.
- E) Check for Water Purities and develop a treatment plan.
- F) Check with DEC and EPA when necessary to advice.

Purifying system:

UWS has a patented purifying system that will add a new dimension to the Aquacleaner’s capabilities. Our Smart Rocks will take the water after it is filtered for debris, and send it through a series of additional filters and machines that will remove an assortment of sub particle metals, minerals and other impurities. Then we treat that water with a custom mixture of chemicals, that will give your water system the cleanest, ph balanced product available.

Ocean Properties:

The Aquacleaner is ideal for the removal of weeds, shells, rocks, and other sharp objects lying on your Ocean Floor, or laying on the surface of the shores. Our services are perfect for Beach restoration and renewal, because we can take and replace your sand back into the area’s you desire or relocate it to another place. Our system is perfect for beach restoration projects where the sand to be pumped is located in close proximity to the beach or is in ecologically sensitive areas.

Ocean Shorelines

Canals

Bays

Marinas

POND RESTORATION

Your pond is a part of your landscaping that accentuates your property, supports it's own ecosystem and can be a source of great recreational entertainment. The dynamics that occur in a pond are vastly different from those of lakes and other bodies of water, and as such, require different methods to maintain and perform remediation on. UWS is on the leading edge of technology in the field of Suction Harvesting and Spot Dredging Equipment, and is the perfect solution to reclaim or maintain your pond. Suction Harvesting offers the best short and long-term solutions to controlling and eradicating the spread invasive vegetation as well as the removal of a variety of debris (leaves, sticks, timber, rock). Dredging is no longer a nasty 8-letter word, but rather is a natural step in the restoration of your pond. Our system is derived from years of experience in the field and has proven to be the most environmentally safe method.

Dynamics – The dynamics that occur in your pond vary vastly from those in lakes and other larger bodies of water for several reasons.

- Ponds by definition are a smaller, contained and defined area of water that is subject a variety of factors that inevitably fill in and become problematic.
- Water flows into the pond whether by stream, creek, storm water run off, or from the surrounding landscaping, and when water flows, it brings things with it. Chocolate color water after a strong rain is a clear sign of organic sediment washing into your pond.
- Organics material including leaves, sticks as well as other debris can accumulate in your pond and fill in your shoreline, denying many components of your pond's ecosystem a place to survive.
- Aquatic plants grow and die each year and decompose into organic silt. Invasive weeds once introduced to your pond can flourish and multiply, overrunning your pond and accelerating the "filling in" process.
- Ponds have a limited amount of depth and space, which over the years becomes less and less. Overtime all ponds need to be dredged to regain its original depth and reclaim the ecosystem it supports.

Shoreline – the shoreline of your pond is the important area because it is where a bulk of the ecosystem is supported. Fish spawn in the shallow portions of your pond and from there the rest of the pond's marine life flourishes. Frogs, turtles, and birds all feed off the shallow water and close proximity to the land surrounding the pond, so keeping this area open allows the ecosystem to survive and develop.

The second reason the shoreline plays such importance in your ponds health involves the spread of invasive aquatic vegetation. When the ponds bottom is firm (when it was first built), it makes it much hard for invasive weeds to spread because these types of plants can't root themselves easily, as compared to a soft, silty bottom, which provides a rich organic base for them to multiply.

Options for remediation – your pond took years to get into the shape it's in currently, so dealing with it all at once is not always necessary depending on your desired goals (long and short) as well as your budget. Working on your pond in phases can begin to bring a pond back to a healthy state without an all or nothing mentality. You should first consider your problems and what you looking at achieve.

What are your Concerns?

- Ponds health, Ecosystem, Eco chain, Algae Blooms, Fish Kills, Discolored Water, Appearances.

Options: Your options can varying but start with Vegetation and Debris Removal, Shoreline Remediation, Dredging Inlets, Dredging the Center, Reclaiming depth. U.W.S. stands ready to assist you with all options that meet your goals and budget.

The alternative of using construction equipment sounds easy in theory but holds many pitfalls, which most people are unaware of and only find out when it's to late.

They include:

Draining the pond -Removal of the water and keeping it out long enough for the pond to dry out is very challenging. While streams and tributaries can be diverted, ponds that are feed by springs cannot just be shut off.

Environmental - Killing the marine life and the ecosystem the pond supports

Working in the pond – We have seen and heard of many pond projects where the construction equipment gets stuck in the sediment and becomes useless.

Risks – Most ponds contain a barrier on the bottom that is not permeable and holds the water in the pond. Operating construction equipment in it poses the risk of nicking that barrier and creating a hole or fisher that will allow the water to escape and requires identifying the hole and repairing it, which is not an easy task to achieve.

The Slop – No matter how long a pond can remain dry, the sediment never gets very pliable, so moving it around will always make a huge mess all over the surrounding landscaping.

The maintenance of ponds requires a unique combination of both our Aqua Cleaner machines because ponds inevitably are full of an array of debris, which makes dredging them difficult for most standard dredge pumps to handle. We typically use a two-step process where we work an area first with our suction-harvesting machine to remove the debris and give us clean sediment. As we use the Suction-Harvester, we contain and consolidate the sediment with a silt curtain and then pump it out with our spot-dredging machine. Our process is the only one in the industry that actually is operated with our manpower in the water at all times, and thus allows us to deal with and overcome the obstacles those ponds present.

Bigger is not always Better

Standard dredge machines move large amounts of sediment that are accompanied by large amounts of water, 1500gpm and higher. As a result the amount of space that is required to de-water this slurry is also significant. A logistical aspect that typically is hard to accommodate. Our Aquacleaner machines move only 300gpm, with a significantly higher percentage of solids, which allows us to manage our slurry in a smaller, confined area.

This hands on approach allows us to overcome the obstacles and challenges that ponds inevitably bring and has made UWS the leaders in pond restorations.

Training:

At UWS our staff implements a carefully designed plan of attack for each of our clients. Our staff goes through extensive training to insure a clear understanding of their job requirements, the equipment they'll be using and the environmental conditions they'll be working under. Our company's human resources extend into the academic world so we can continuously monitor our procedures and keep up with the latest data. We have a wide assortment of qualified divers for all under water needs.

Insurances: Our Company goes above and beyond in insuring our staff, and our bids on potential jobs. All necessary certificates will be made available prior to any jobs origination.

