

Aquacleaner

“Leaders in the field of Waterfront Restoration Technology”
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The Aqua Cleaner Waterfront Restoration System ***Water/Power Authorities Applications***



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. The core of this technology also makes it a useful tool for the removal of a various types of debris obstructing the flow of water. Dredging is no longer a nasty 8-letter word, but rather is a natural step in the restoration of any body of water. Lake Bottoms get soft and fill in through many means, which only helps further their demise, and our system is the least disruptive to the ecosystem both in the water and upland. The cleaning of the bottoms of water storage tanks becomes an easy task as well.

Applications

Lake/Pond Restoration	Invasive Plant Removal	Environmental Clean-Ups
Debris Removal in Storm Water Run offs	Storage Tank Cleaning	Dredging (spot dredging & large scale)
Water Intake Cleaning		Flood Pump Outs

Mission Statement

At Aquacleaner Environmental, 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.

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. Both machines come in several different size configurations depending on the required applications.

The Aqua Cleaner Vegger is a 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.

S.H. has been around since the 80's but nobody has refined it and made it easier to use, bigger and more efficient. Trying to capture debris while moving at least 1200gpm is a difficult task and knowing how to operate a nozzle is even more trying. The Aquacleaner makes it as easy as using your lawn mower. A powerful suction harvester that operates with a man under the water extracting unwanted plants by the rooting system so that they don't grow back as fast. 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 500 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.

The Aqua Cleaner Dredger is designed strictly as a portable dredge machine that will suck up silt, sand and other soft organic material. It comes in several different configurations that accommodate a variety of uses, has a water agitation to create a slurry and can pump over 1000' away without a booster. Bigger is not better when it comes to suction/spot dredging. One person, can stand in the water with a custom-built control rod, operates our dredge machine or use the air compressor to dive on the bottom, hold the nozzle and create a slurry. It is the most environmentally sound method of dredging that is capable of removing between 15 – 25 cubic yards per hour (1 – 2 dump trucks)

Aqua Cleaner Octopus- A jacked up pontoon boat (24' – 28') suction harvester designed for large vegetation and debris removal projects with, multiple 5" nozzles feeding into a several different configurations for filtration and off loading. This machine is self propelled and fully equipped with spuds, outriggers for the turbidity curtains and a porous deck.

The Aqua Cleaner Dirty Dredger- The first of its kind dredge machine that can help you reclaim your lake or waterway. A unique machine created by UWS Aquacleaner that removes invasive aquatic plants along with the accumulated organic silt (muck) as well as leaves, sticks and debris all in one process without clogging. Solid material from the suction harvester is then filtered, leaving clean sediment that flows into the 2-4" dredge pumps. The machine can also be broken down into a 5" suction harvester and 2-4" dredge pumps that can operate on smaller projects.

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: Waterfront Property

The Aqua Cleaner System is a new approach to an age-old problem of aquatic weed removal and long-term restoration of water front property. The regulatory agencies in several states are already familiar with our equipment and have allowed

work in even the most sensitive areas. Some states don't require any permit in waters that are not designated wetlands. Our staff stands ready to assist in permits in any state, and for any project.

Suction Harvesting - Comparisons:

1. Chemicals – A short term solution to aquatic vegetation problems because they only kill a portion of the plants, which then drops to the bottom and turns into silt. It also allows for substantial re-growth, is harmful to your waterways, and while killing the plants, they still leave their remains floating in your waterway.
2. Weed Harvesters – Cutting vegetation is the old, obsolete method for removing weeds. It has many drawbacks. They leave clippings to collect all over your property and create a mess. Harvesters also spread and create new fragments because they fail to capture all the clippings. In addition harvesters are large, bulky machines that can't cut close to your docks and known to have large amounts of fish kills.
3. Grass eating Carp – While being a potentially a good long-term solution for an entire waterway, carp are of little value to your own property. When you purchase these fish, they are so small that they can't eat much vegetation till they are older. They are also picky eaters and will only eat from a select menu. In some documented cases these fish have removed all the vegetation in a given waterway causing more problems.
4. Excavators – This is the only other way to remove unwanted aquatic vegetation and perform dredging. However, it is very messy and ineffective because an excavator can only reach out 15' from shore and when used for dredging removes small amounts of silt and a high percentage of water, making it impossible to capture much of the desired material.

Aqua Cleaner Vegger

Science behind the Aqua Cleaner: Suction Harvesting is the most effective way of removing aquatic vegetation because it removes the blooming vegetation by the roots, as well as the years past plants laying on the bottom in their semi decomposing state. This process can reduce the re-growth to as little as 10% next season depending on variables. It leaves no remains (floaters or fragments), can operate in the tightest areas (around docks and break walls) and is environmentally friendly. We can suction up a fish and it comes through the hose without going through a motor, and then is returned into the water.

The Aqua Cleaner machine is essentially an underwater vacuum cleaner. The machine is mounted on your choice of several different types of pontoons and floats on the water. The system also has a compressor that continuously provides air by way of a hose and respirator (hookah). The diver uproots the targeted plants, the years past decomposing plants and feeds them into a vacuum hose that conveys them to the surface. There, they are segmented and filtered with several different options so that the water is separated from the plants. The weeds and all the solids go into the bag, while the water passes through the filtration bag and back into the lake. When a bag is full it is placed onto a raft that is later taken to shore where the bags can be composted or trucked offsite.

STOP THE CYCLE

Aquatic vegetation grows and dies each year, sending the carcass of the plant to the lakes bottom. There they decompose and fragment, which only increases the density of the plants in following season's and adds to the build up of organic sediment. Suction Harvesting slows this process down and over repeated use, will stop this vicious cycle. In contrast with chemical treatments or weed cutters, we also offer the advantage of selectivity. If you want only the milfoil removed but want the lily pads to remain untouched, we can easily accommodate your desires. In the end it may be necessary to dredge out a given area to remove the organic sediment and reduce the nutrient load.

Dredging:

The traditional method for removing soil entailed having a large construction excavator operate either from your dock or out on a barge. This process is imprecise and not very effective. Scooping large volumes of soil from a water way is intrusive, disrupting the ecosystem and doesn't afford a close tight cleaning. In ponds the risks are far greater. Pumps are the preferred method of dredging but the norm in the industry are large, aggressive machines, which move huge amounts of water and silt which are very hard to manage in a small contained area like your backyard of your lakefront property.

The Aqua Cleaner operates by sucking up silt and water together and pumping it to a desired location. The most cost effective method involves pumping the material into a field and letting the water and sediment dissipate and be absorbed into the ground. Our second option is to pump the silt and water (slurry) into a dewatering bag that sits on your property. The water slowly leaches out and over a short period of time, the silt contained in the bag will harden and can then be removed. Silt is typically composed of a very pure, organic material (great for composting), which can be spread over your lawn or given to local landscapers or farmers.

Water/Power Authority Applications:

Dredging – There are several reasons to remove soft material from a waterway including the clogging of intakes, deepening of water or the reduction of aquatic vegetation like algae. The issues that the “norm in the industry” posses occur in both the water and upland; Our system and equipment solves many of those logistical concerns with less disruption and greater productivity while producing less turbidity. Our equipment is also very portable.

Water Intakes- Water intakes typically draw huge volumes of water and in the process will also bring a variety of plants and debris with that water that eventually get caught up in your intake cover or screen. This can be problematic over time requiring maintenance. Our suction harvester and suction dredge can easily remove any time of blockage with a complete process that offers portability, filtration and bagging of the debris, and mobility for the diver with assistance of an air compressor so that no air tanks are required.

Water Storage- Water storage holding tanks have large volumes of water passing through them and over time will need to have the bottoms cleaned of the debris and various elements that have accumulated on them. The Aquacleaner system can simplify projects such as this by offering you several options for the remediation of these tanks. The ability to work in these tanks, while there still filled with the water has to solve logistical issues that others methods would pose.

Storm Water- When water flows, it brings things with it and many times canals, streams and large pipes will periodically get clogged up after big rains with an assortment of plants, leaves, sticks, timber, sediment and debris. Our equipment can help you clean these areas out by offering you a variety of options in their configuration that will allow for remediation.

Flood Waters- Having our equipment will give you an additional resource if you ever have the need to manage large volumes of water after a heavy rain or flood. All our pumps are capable of moving large volumes of water and have the portability of small pontoons to aid in the set up and discharging of floodwaters.

The benefits of the Aqua Cleaner Waterfront Restoration System are far-reaching, documented and verified. We offer a variety of services that include: Invasive plant remediation, debris removal, removal of accumulated organic material, deepening the waterway, as well as those listed above for Water and Power Authorities. The equipment is also available for sale and comes with extensive training and maintenance protocols. Please feel free to contact us with the specific details of your problems and projects.



