

# Aquacleaner Environmental

"Leaders in the field of Waterfront Restoration Technology"

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## **The Aqua Cleaner Waterfront Restoration System**



## ***Waterfront Restoration***

Aquacleaner Environmental is on the leading edge of technology in the field of Suction Harvesting and Suction Dredging Equipment. Suction Harvesting offers the best short and long-term solutions to controlling and eradicating the spread of invasive vegetation. Dredging is no longer a nasty 8-letter word, but rather 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.

### **Services Available**

Lake Wide Restoration

Lake Assessments

Environmental Clean-Ups

Homeowner Restoration

Pond Assessments

Dredging (spot dredging & large scale)

Break Wall Construction

Flood Pump Outs

Boat House Pump Outs

## **Equipment Available For Sales & Lease**

## JOINT VENTURES AVAILABLE IN LIMITED TERRITORIES

### **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 Aquacleaner Environmental 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 1200 gpm is a difficult task and knowing how to operate a nozzle is even more trying.

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 several different filtration options (depending on the project) 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 a unique designed suction dredge, also operated with a diver technician in the water. This is a machine that will suck up silt, muck, sand and other soft organic material. It uses water agitation to create a slurry and can pump over 1000' away without a booster. Bigger is not better when it comes to home or spot dredging. One person, who stands in the water with a custom-built control rod, operates our dredge machine. The water agitator creates a slurry, which then goes through the suction hose. It is the most environmentally sound method of dredging that is capable of removing between 10 – 20 cubic yards per hour (1 – 2 dump trucks) and can pump up to 1000' away

**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.

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**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 DEC offices 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:** Your waterfront property is basically an aquatic garden. It is the optimal environment for aquatic vegetation to grow in because it has all the ingredients that vegetation needs to flourish; water, sun, and a rich soil. If you look at your back yard and use that as an example you can further understand the dynamics of what takes place in the water. You have the perfect yard but your neighbor has a bunch of dandelions. The wind blows the wrong way and now you have dandelions (the water is a much better medium than air). If you try to remove the dandelions by pulling them or cutting them they will still grow back. However if you dig them out and excavate the roots, the odds are much greater that the re-growth will be minimized. Because water is constantly moving, it carries fragments from these invasive plants. When these fragments land on your property they can take root and grow. Using chemicals only makes the problem worse because when a plant dies, it drops to the bottom, decomposes and breaks into fragments, which causes additional re-growth next season. Again, harvesters also make the problem worse because when you cut a plant you are spreading fragments that will fall to the bottom and take hold as well. (Ask any landscaper, and they'll tell you... if you want thicker grass, just keep cutting it).

**How It Works:** 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 but we have experienced as much as 50% depending on variables. It leaves no remains (floaters), 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 5' X 10' pontoons and floats on the water. The system also has a compressor that continuously provides air by way of a hose and respirator. 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, a second worker bags them in 50-pound onion bags. The weeds and all the solids go into the bag, while the water passes through the mesh 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.

Site Plan For Dredging: A) Mark off area to be dredged. B) Build staging area C) Pump out soil into the staging area and allow to de water and dry D) Move soil onto dump trucks E) Cart away soil

The benefits of the Aqua Cleaner Dredging System are many. Aqua cleaner can return your property to the original hard packed bottom. We can get into all tight spaces around docks and barges and carve out a more precise removal of soil. We can assist you in obtaining all permits and disposal requirements.

### **Options**

**Purchase of Equipment-** We can sell you any of our products with complete training, servicing and permitting.

**Lease of Equipment-** You can lease our equipment for individual projects or demonstrations.

**Service Work-** If you can get us enough clients, we'll travel to your lake to show off our wears.

**Business Opportunity-** If you're looking for a great niche business, this is it!!!

