

# Universal Water Solutions

"Dedicated to the cleaning the Earth's most valuable asset"  
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## **Introducing The Aqua Cleaner**



## **Water Front Restoration**

### **Profile on our Company:**

Universal Water Solutions is a company that was conceived on the notion that while water is one of our most precise assets, it is subject to severe abuse and needs care. Whether derived through the environment, natural or man made circumstances occurring within our daily living, water ways require continuous maintainence to remain clean, unobstructed and useful.

## **Mission Statement:**

At UWS, our goal is to remove the vegetation, rocks, sticks, leaves, debris and soil that hinder your use of the your water ways, make them more accessible while remaining conscious of our environment and the need to protect it. Regardless of the nature of each job, we will remove unwanted debris in your water, and leave it in best condition possible with today's technology. No matter the size of the job, we will always operate with the highest levels of professionalism. We surround ourselves with the best and brightest specialists in the water industry. Our staff all has personal experience and passion for the water and it's environment. In keeping environmentally conscious we perform, various services only after checking on all legal ramifications and procedures, always keeping in mind the delicate balance that exists between man and nature.

## **The Aqua Cleaner:**

The core of UWS's services comes from the strength and abilities of the Aqua Cleaner. An industrial based underwater vacuum cleaner that with various attachments can clean and purify your water and it's surrounding environment. The Aqua Cleaner is so diverse that it can collect an assortment of debris from large weeds and plant life, to silt and debris on the floors of Water Storage Tanks, and filter out water with sub micron clarity. Through a unique concept with clean ode, we can even add filters and purifiers so that the water that comes out of the Aqua Cleaner, is purer than the water that went in.

We manufacture two different Aqua Cleaners that together can provide a total solution to your water front problems.

**The Aqua Cleaner Vegger** is designed to suck up any type of solids that will pass through a 5" hose. These include aquatic vegetation, leaves, rocks, zebra mussels, sticks and other debris.

**The Aqua Cleaner Dredger** is designed strictly as a portable dredge machine that will suck up silt, sand and other water permeable material.

## **Specs on the machine:**

Aqua Cleaner Vegger

Power – (2) 9 Hp Honda Motors

GPM - 1000 (gallons of water per minute)

Debris Capacity – 10 cubic yards/hr (about a lg dump truck). Material can be pumped approx 100'.

Vegetation Capacity – 300 to 500 Square feet per hour

Aqua Cleaner Dredger

Power – (1) 9 hp Honda Motor Dredger & (1) 5.5 Honda Motor Power Agitators

GPM – 350 GPM

Debris Capacity – 10 to 15 Cubic Yds per Hour. Material can be pumped approx 1000'

## **On Site Personal & Equipment**

Our crews work as one unit to deliver efficient, effective service. Each team consists of a minimum of two (and up to 4) skilled water-cleaning professionals.

They include:

- A) Set up- two employees who will unload the equipment, set up the site and prepare refuge line.
- B) Our Divers- skilled at different levels depending on the application (Each Aqua Cleaner can accommodate up to 2 divers operating one hose)
- C) Under Water Technicians- These divers hold and assist in the operation of our vacuums, but also work the cameras, lights and communication with our land based staff.
- D) Refuge removal- Working with large volumes of water requires an efficient crew working with all the debris and refuge coming through the filters. (Can use up to three employees)

## **On Site Equipment Includes:**

A) Aqua Cleaner B) Air regulators C) Wet Suits & Weight Belts D) Under water lights E) Refuge & debris bags.

## **Applications and Services: Water Front Property**

**The Aqua Cleaner System** is a new approach to an age-old problem of aquatic weed removal. This system combines old-fashioned common sense, hi-tech machinery, and professionally trained crews. It uses no chemicals or herbicides, has a lasting effect, and is affordable. This technique does not require a DEC permit in waters that are not designated wetlands.

### **The Aqua Cleaner System - Comparisons:**

- 1) Chemicals – A short term solution to vegetation problems because they usually only kill a portion of the problem, allow for substantial regrowth, are harmful to your water ways, and while killing the plants, still leaves there remains floating in your water
- 2) Weed Harvesters – Cutting vegetation is the old, obsolete method for removing weeds. It has many drawbacks including: Leaving clippings to collect all over your property and cause nuisance, when clipping a weed in half, you are further aggravating the problem because seedlings will fall from the broken weeds and cause greater regrowth. Harvesters are large, bulky machines, that can't cut close to your docks.
- 3) Grass eating Carp – While being a good long term solution for an entire water way, are of no value to your own property. Plus when you typically purchase these fish, they are so small that they can't much vegetation till they are years older.
- 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 using it for dredging removes silt that has a high percentage of water in it so that you really can't capture much of the desired material.

**How It Works:** The Aqua Cleaner is the most effective way of removing aquatic vegetation because it removes the vegetation by the roots, leaves no remains, has minimum regrowth, can carve out clean areas in the tightest areas and is environmentally friendly. Our workers wear wet or dry suits allowing them to in all sorts of climates as long as the water is not frozen.

The Aqua Cleaner machine is essentially an underwater vacuum cleaner. The machine is mounted on pontoons and floats on the water. The system also has a compressor that continuously provides air by way of a hose and respirator, that allows a diver to work unfettered by cumbersome air tanks. Since we don't use scuba tanks, the time spent underwater is not limited by air tank supply.

The diver uproots the targeted 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 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.

In contrast with chemical treatments or weed cutters, we 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. Unlike weed cutters, the Aqua Cleaner is able to maneuver around and under docks, stumps and other obstacles.

**Science behind the Aqua Cleaner:** Your water front 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. If you have the perfect yard but your neighbor has a bunch of dandelions, the wind blows the

wrong way and now you have the dandelions (the water is a much better medium than air). Now 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 minimal zed.

The water that is on your property comes from somewhere else and when water travels it carries with it seeds from aquatic vegetation. When these seeds land on your property they can take root and grow. No matter what you do to try and maintain your water, aquatic vegetation will always pop up. By removing the aquatic vegetation by the roots you reduce the re growth the following season by as little as 10% next season and as much as 50%. Using chemicals only makes the problem worse because when a plant dies it drops to the bottom, decomposes and releases the seeds that are stored inside the plant so that they sprout new plants next season. Harvesters also make the problem worse because when you cut a plant you are again releasing the seeds that are stored within the plant, and they 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). The Aqua Cleaner stops the cycle by pulling the vegetation up by the roots so that the re growth is minimal zed. To truly get the best, long-term results, you need to not only remove the vegetation but also the pure organic silt that has accumulated over the years. By doing this you are returning your water front property back to it's hard packed bottom and also removing the roots that have accumulated over the years of having aquatic plants growing.

### **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. It is also the least friendly to the environment. Scooping large volumes of soil from a water way is intrusive and doesn't afford a close tight cleaning. Also, silt consists of approximately 70% water so that when you grab a bucket of it, you lose most of the material as it flows out of the bucket and all over your property.

Process: 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 dissipate and be absorbed into the ground, and then letting the silt be absorbed into the ground over time. Our second option is to pump the silt and water 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, that can be spread over your lawn and when necessary given to local landscapers or farmers.

Site Plan For Dredging: A) Mark off area to be dredged. B) Build suitable silt wall to allow water to drain back to source C) Pump out soil beyond silt screen D) Move soil onto dump trucks E) Cart away soil

### **Benefits:**

- 1) We can get into all tight spaces around docks and barges and carve out a more precise removal of soil.
- 2) We can filter out any type of natural minerals or fish that we come in contact with.
- 3) We won't disrupt and destroy your property.

### **Costs For Service Work & Purchasing.**

#### **Services:**

- 1) Aquatic Vegetation Removal - \$150.00/hr
- 2) Dredging - \$15/cyd With Dewatering - \$20/cyd

#### **Purchasing:**

- 1) Vegger - \$30,000 plus options
- 2) Dredger - \$30,000 plus options

For service work we do offer substantial discounts for large size or group projects. Call for quotes Protected territories and distributorships are available.