

**APPLICATION FOR DASH-BOAT GRANT  
to the DCR PARTNERSHIPS MATCHING FUNDS PROGRAM  
by the NATICK CONSERVATION COMMISSION  
and PROTECT OUR WATER RESOURCES  
October 17<sup>th</sup>, 2008**

**Partner Information:**

Bob Bois, Conservation Administrator  
Natick Conservation Commission  
Town Hall  
Natick MA 01760  
Phone: (508) 647-6452  
bbois@natickma.gov

**Park and/or Facility Information:**

Cochituate State Park  
Wayland, MA 01778  
Phone: (508) 653-9641

**Proposed Project Information:**

**Brief Description of Project:**

The Natick Conservation Commission (NCC) and Protect Our Water Resources (POWR) are filing this application to the Partnership Matching Funds Program of the DCR to purchase a diver-assisted suction harvester (DASH) to control the weeds in Lake Cochituate (Cochituate State Park).

**Budget Estimate for Project:** \$50,000

**Amount of Funds you will contribute to the project:** \$16,667

**Amount of Matching Funds Requested:** \$33,333

**Proposed Project Category:** Other

Purchase a diver-assisted suction harvester (DASH boat plus necessary equipment) to remove aquatic weeds from Lake Cochituate (Cochituate State Park).

**Permitting:** Yes

Wetland Protection Act

Local permits from Cochituate State Park

**Bidding Required:**

Our search found no Commonwealth-approved vendors who sell this product.

**Three bids:**

Our search found one company:

Universal Water Solutions/UWS Aquacleaner  
P.O. Box 20182, Rochester, N.Y. 14602  
(585) 752- 7930, (716) 867-1763  
www.aquacleaner.com

**Ribbon-Cutting Event:** Yes!

**Agency Contact History:**

Ann Monnelly, Office of Lakes and Ponds  
John Dwinell, District Manager  
Susan Hamilton, Regional Supervisor  
Tim Murphy, Park Supervisor

**Additional Partners:**

Protect Our Water Resources (POWR)  
Carole Berkowitz, Chair  
9 Crescent Road  
Natick, MA 01760  
Phone: (508) 653-8228

Cochituate State Park Advisory Committee  
Nathaniel Bogan, Chair  
Phone: (508) 650-4120 in Natick  
Nathaniel\_Bogan@alum.mit.edu

**Prior Partner Information:**

Cochituate State Park and the Natick Historical Commission partnered on the Henry Wilson History Trail in Spring 2008.  
(A. Richard Miller of the CSPAC was a liaison to that project and this.)

**Additional Information:**

(photographs, DASH descriptions, supporting letters)

What is a diver-assisted harvester (DASH)? The DASH is a boat, equipped with a machine that sucks the nuisance weeds through one or more hoses. The hose system is powered by a motor and suction pump. Divers swim underwater with the hose in the weed areas. The diver scoops up the plant with its roots and, using specific techniques, sucks the plants up into troughs on the boat where the water drains out. The weeds are bagged, removed to the shore, dried out, and taken to a recycling area to be composted. Farmers may do the removal in exchange for the valuable "green manure." Obviously, care must be taken to avoid reintroduction of the materials into water bodies.

We believe that additional non-herbicidal techniques need to be explored and used on Lake Cochituate for the removal of nuisance aquatic weeds.

Natick, unlike Wayland and Framingham, gets its drinking water from the groundwater system of the lake. For five years our group has been researching scientific data concerning the use of herbicides. Significant facts indicate that herbicides can be potentially harmful, especially to children. Therefore mechanical methods are a better choice for dealing with aquatic weeds - more beneficial for the total water environment, and for the public health of Natick citizens.

Chemicals do not eradicate the invasive plants. Because of this, chemicals must be applied to the same body of water multiple times. For example, in recent years Wayland has had two applications at the Wayland Town Beach (on the North Pond of Lake Cochituate) and three in Dudley Pond (immediately north of Lake Cochituate).

DASH harvesters have been used successfully in New Hampshire, Maine and Vermont. The POWR chair had the unique opportunity to join the Little Sebago harvesting team for a normal six-hour harvesting day on its DASH boat in Lake Sebago, Maine.

The DASH boat we have selected represents a high-capacity, high-efficiency design suited for our lake. We expect that benthic matting and hand-pulling techniques, already in use on Lake Cochituate, will continue as supportive methods.

With this partnering and the DCR partnership matching funds program, we can reduce the milfoil infestation over a five-year period with a high-capacity harvester - like in Little Sebago Lake, where they now are maintaining areas at much-reduced outlays of time and money and with no concerns associated with health risks of herbicides.

**Agency Contact History:**

The Natick Conservation Committee (NCC) has cooperated with the Mass. Department of Conservation and Recreation (DCR) and the Cochituate State Park Advisory Committee to find non-herbicide techniques to solve the weed problem in Lake Cochituate. For example, the Mass. DCR, Natick and the Cochituate State Park Advisory Committee (CSPAC) have worked together to support the introduction of the first two floating circulators in Massachusetts and a Tufts University project to determine the effectiveness of these devices. DCR, the NCC and POWR developed a harvesting project on Fisk Pond (at the south end of Lake Cochituate's chain of ponds) just this past summer to reduce an infestation of water chestnut.

Representative David Linsky of Natick has actively supported these projects.

The Chair of the Natick POWR group attends the CSPAC meetings as an associate member.

The CSPAC and POWR attend the DCR Stewardship Council meetings on a regular schedule. This connection has been helpful in expediting the removal of water chestnut from Fisk Pond.

Lake Cochituate is a shared chain of ponds in three towns. We have developed a partnership between the NCC, the CSPAC, and the Wayland Surface Water Quality Committee (WSWQC, which has expressed interest in supporting the service part of the DASH project). In the future, Framingham may contribute a share for the shoreline that is in Framingham.

2002 - First reporting of Eurasian Water Milfoil, Variable Milfoil and Curly Pondweed

2003 - First proposal to control these invasives, using herbicides (diquat or endothal). Natick Conservation Commission (NCC) permitted the use of chemicals with stipulations to protect the water supply. That was appealed by a group of local citizens with concerns for Natick's drinking water and ecosystem. The chemicals were not used. Benthic matting and hand-pulling were used at Cochituate State Park (CSP), and this continued for the next seasons.

2006 – May: Following a Health Dept. recommendation and a Town Meeting vote, both opposing the use of the herbicide fluridone for the control of nuisance aquatic vegetation in the Natick portion of Lake Cochituate, the Natick Conservation Commission denied its use. This decision was appealed, but Mass. DEP's decision supported the Town of Natick.

2008 – The NCC requested and permitted DCR (Department of Conservation and Recreation) to harvest water chestnut in Fisk Pond, at the south (upstream) end of Lake Cochituate.

2008 – Lake Cochituate has more milfoil and curly pondweed, particularly in Middle and North Ponds. The Wayland Surface Water Quality Committee (WSWQC) is seeking DCR Partnership Funds to use a one-time application of herbicides in the most affected parts of North Pond, with a follow-up program using a combination of harvesting, benthic matting and hand-pulling techniques to manage the weeds.

## Illustrations: Diver-Assisted Suction Harvester (DASH boat)



Figure 1- A UWS Aquacleaner DASH boat. Note orange hose on deck, and very large deck area for dewatering the harvested weeds. Black float tubes suspend a silt screen six feet into the water, to reduce lake turbidity from the draining operation; a black “gate” (with blue top rack) permits divers to enter and exit the screened area.



Figure 2- The working end of a DASH boat is rather like a vacuum cleaner, but it stays above the lake bottom to avoid disturbance of sediment and bottom habitat. A diver places an entire plant up into its intake nozzle, and only then gently pulls the entire root system loose – and up it goes for dewatering, bagging and removal.

Universal Water Solutions/UWS Aquacleaner  
P.O. Box 20182, Rochester, N.Y. 14602  
(585) 752- 7930, (716) 867-1763, [www.aquacleaner.com](http://www.aquacleaner.com)

From: "Jerome M. Davis" <[myaquacleaner@aol.com](mailto:myaquacleaner@aol.com)>  
Subject: RE: The Aquacleaner  
Date: Wed, 15 Oct 2008 22:37:02 -0400

Hi Carole

I appreciate your interest in acquiring an Aquacleaner suction harvester from UWS.

Through our conversations I have a better idea of the scope and magnitude of the project you wish to tackle.

In building you a machine, I am looking at all the factors and dynamics involved and know that you are in obvious need of our industrialized suction harvester we refer to as THE OCTOPUS.

This machine has the following specs:

24' x 8'-4" pontoon boat with 2 pontoons

Self propulsion jet drive

Permadeck drainage deck

5 inch suction tube, 50' long

2 - 6.5 hp. Honda motors

Air compressor for diving

50' hookah line

Air regulator with harness

Twin bagger

Options:

50-lbs. onion bags

Wet or dry suits

Dive gloves

Dive boots

Weight belt

Dive mask

100' Turbidity curtain

Synch sack bags

Refuge barges

This is a very powerful and efficient machine, far superior to any you have seen or heard about.

This machine will move over 1,100 gallons per minute and filter the aquatic vegetation with minimal to no fragmentation. The boat will support a huge amount of weight, so you can stay out on the lake and harvest for the bulk of the day without returning to offload.

This boat can be modified to accommodate a variety of other bagging options, as well as have a second line added to the boat.

Your ROP (rate of progress) will vary based on several factors:

- Type of plant
- Type of bottom
- Height of plant
- Depth of water
- Density of plant

For example, a dense patch of 6'-tall milfoil plants can be harvested in a soft bottom at an ROP of up to 600 per hour.

I can build this machine for approx. \$50,000 depending on what options you will need.

When you purchase a machine from UWS AQUACLEANER you get complete support unlike any other company, including:

- State regulatory set up and permitting (when required)
- Compliance with state regulations
- Complete on-site training in all aspects of the machine. Maintenance schedule, navigation of the vessel, set-up, break-down, above-water operation, under-water operation (for different plants, different bottoms)
- Debris removal and disposal
- Plant selectivity and identification
- Setting up a suction-harvesting program, including manpower and seasonal operating schedules
- Insurance options

Our system and our methodology come from over nine years and thousands of hours of use in a variety of scenarios.

I will send you pictures of this machine in the following email.

I truly appreciate the opportunity to work with you and your organization and look forward to helping you to solve your lakes problems and to bring it back to a healthy state,

Jerry Davis  
President, UWS AQUACLEANER

Mr. Nathaniel Bogan  
Chairman – Cochituate State  
Park Advisory Committee  
34 Robinhood Road  
Natick, MA 01778

Town of Natick and/or POWR  
c/o Ms. Carole Berkowitz  
9 Crescent Street  
Natick, MA 01760

October 9, 2008

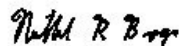
Dear Ms. Berkowitz,

I am writing on behalf of the Cochituate State Park Advisory Committee regarding the matching funds grant proposal you are preparing for filing with the Department of Conservation and Recreation.

Thank you for explaining the grant proposal you are preparing at our monthly meeting last night. The following motion was passed by the Cochituate State Park Advisory Committee, "Motion to authorize Chairman Nathaniel Bogan to write a letter of support from CSPAC to the Protect Our Water Resources group and/or the Town of Natick for its grant application to the DCR for the purpose of suction harvesting in Lake Cochituate." The vote was seven in favor, unanimous.

We are pleased to support the POWR group and the Town of Natick in the effort to manage the weed problem at our lake.

Sincerely,



Mr. Nathaniel Bogan  
Chairman – CSPAC

cc: CSPAC, CSP Supervisor Tim Murphy, DCR Regional Director Mr. John Dwinell, DCR Office of Water Resources Acting Director Ms. Anne Monnelly, Mr. Robert Bois – Natick Conservation Commissioner