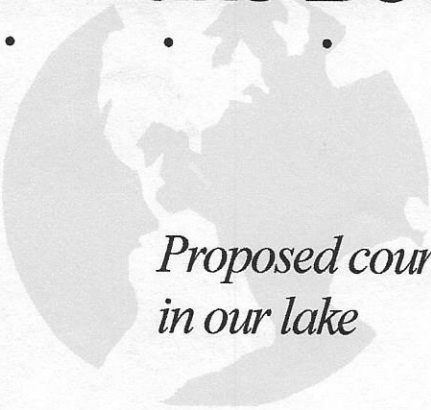




# Lake Boon Restoration Project



*Proposed course of action to eradicate the non-native weeds  
in our lake*

Barry Price, LBA President: 978-568-0112  
Kent Seith: (978-203-6223)



Table Of Contents

**Problem Summary ..... 3**

**History ..... 3**

**What has changed ..... 4**

**Our Options..... 4**

**Public Support..... 5**

**What needs to be done..... 7**

**Request..... 7**

**Other success stories..... 7**

Addendum A..... CPC Project Proposal Submission Sheet

Addendum B ..... Lycott Environment Lake Restoration Quote

Addendum C ..... Aquatic Control Lake Restoration Quote

Addendum D.. Hudson Town Warrant (section pertaining to the weeds)

Addendum E ..... Weed petition

Addendum F ..... Lake Boon Restoration survey



# Lake Boon Restoration Project

## Problem Summary

Cabomba and variable leaf milfoil (AKA: coontail) are back at Lake Boon and they are worse than ever. These are non-native, invasive plants and can completely destroy a lake's ecosystem if left unchecked. Milfoil stems can grow from 15 to 20 feet, forming large mats of vegetation. The dense plants prevent light from getting to other native plants submerged in the lake and can obstruct swimmers and boat traffic.

The 3<sup>rd</sup> and 4<sup>th</sup> basin are covered with a mat of weeds. This year, basin 2 has about a 2 acre area that is a mat of weeds making boat navigation a problem. Swimming in this area of basin 2 is dangerous and several residents have complained about safety issues.

## History

Over forty years have passed since the first of many studies were conducted on Lake Boon and its watershed, evaluating various in-lake management techniques and the long-term management of the water body. Following is the list of reports which have given the Lake Boon Commission, Lake Boon Association and other interested residents considerable insight to the problems we are faced with.

1. Lake Boon Weed Study Committee appointed by Selectmen of Hudson and Stow (1963)
2. Metropolitan Area Planning Council (MAPC) 1978
3. Boons Pond, Diagnostic/Feasibility Study undertaken by the Department of Environmental Quality Engineering (DEQE) Division of Water Pollution Control (DWPC) prepared by Notini and Morrison in April 1979 –July 1980
4. Diagnostic/Feasibility Study Lake Boon in 1987 undertaken by Camp Dresser & McKee in association with IEP, Inc.
5. A Nutrient and Limnological Investigation of Lake Boon undertaken by Environmental Science Services, Inc. in 1999.
6. Lake Boon, (Boons Pond) Hudson and Stow, MA. (MA 82011) TMDL, Sept. 22, 1999 to present.
7. Lake Boon Wildlife Habitat Study 2000 undertaken by Environmental Science Services, Inc., in 2000.
8. Lake-Level Drawdown Study undertaken by Lycott Environmental, Inc. in 2000-2001.
9. Lake-Level Drawdown Well Impact Report undertaken by Lycott Environmental, in 2000-2001.

In 2002, the Lake Boon Association and Lake Boon Commission obtained funding, majority support (85%) and proper state permits to perform an herbicide treatment with Sonar® A.S.

It was a major success, eliminating more than 90% of the Cabomba and much of the milfoil. The remaining milfoil was targeted for subsequent booster treatments.

However, it was not possible to continue with the much needed follow-up treatments due a threat of legal action by two individuals who mis-represented themselves to a legal environmental organization.



As a result, an order to “Cease and Desist” was issued by the Stow Board of Selectmen and the follow-up was never implemented.

## What has changed

EPA has determined in their letter dated 7/22/03, that the NPDES (National Pollution Discharge Elimination System) permit (the basis of the threat of a lawsuit) is not applicable.

The individuals threatening the lawsuit have moved away.

Weeds are now becoming a problem even in the 1st basin!

Through the many studies noted previously, we have done a lot to investigate other methods to preserve Lake Boon. It is recognized that excess phosphates in Lake Boon encourage the prolific weed growth and they must be reduced, especially from runoff. But even with that reduction, the invasive weeds would persist. Most recently, an s319 watershed grant was secured, which is a federally funded grant administered by the Massachusetts Department of Environmental Protection. s319 funds are used primarily for on-shore projects that protect water quality, such as:

- Installation of 25 leaching catch basins in the Lake Boon watershed. These catch basins will reduce the flow of storm water going directly into Lake Boon down boat ramps, across land, or at roads that “dead end” into the lake.
- Water quality monitoring to gauge how well the catch basins work.
- Educational supplements to the Lake Boon Gazette on lake-friendly property management.
- Workshops for lake residents on landscaping and lawn care for water quality protection
- Support of the on-going group-rate septic pumping program for lake residents to encourage more frequent pumping and service.
- A pilot “plant replacement” study: weeds will be harvested in test plots in the 4th basin and areas will be replanted with low-growing, native aquatic plants. We want to see if healthy native plants slow down the spread of milfoil and cabomba.

## Our Options

### OPTION 1: Status Quo

Over the last six years, LBA members have looked into a number of alternatives to chemical treatment, including level drawdown, weed-eating weevils, weed-eating carp, aeration systems, and mechanical harvesting.

- **Drawdown**—the well survey done several years ago showed that drawdown would have a negative impact on a significant number of shallow wells, likely causing loss of water in the winter months when it is most difficult to provide alternative supplies and possibly opening the door to lawsuits.
- **Weed-eating weevils**—our species of milfoil is not their first choice for a food source. Cabomba ranks even lower.
- **Weed-eating carp**—they are bottom feeders that would stir up sediments. These carp are illegal in Massachusetts because they would displace other fish species. The State does not allow even sterile weed eating carp because of the risk they would not be 100% sterile.
- **Aeration systems**—unproven as a means of weed or nutrient control; most useful for algae.
- **Mechanical harvesting**—not the first choice for control of vegetation that spreads by fragmentation, since harvesting produces fragments. It is a very short term technique—like mowing grass.

- **Plant Replacement program**—the primary reason we're participating in this experimental program, is to see if it's worth going to the extra expense and effort of replanting or re seeding after an herbicide treatment, possibly to prolong the good effects of an herbicide treatment and thereby save \$30 or 40 k over a few years.

The LBA will always be open to considering alternative methods of weed control, and would include periodic reviews of available technology as part of any lake management plan.

**PROS:**

- Chemical-free

**CONS:**

- Unproven
- Expensive (plant replacement)
- Extremely slow

**OPTION 2: Enter into a lake restoration program**

Treat the damaged parts of the lake one time and then participate in a lake restoration program which will take us through 2009

Total cost will be approximately \$115,000 (\$85,000 for the large, initial treatment and \$15k a year for booster treatments.)

Stow will fund \$80,500 and Hudson will be asked to pay \$34,500 (there will be a Hudson town article for this at the next town meeting)

**Pros:**

- Treating the lake properly will preserve this natural resource for generations to come
- Will allow the Stow boat launch and public beach to remain open

**Cons/Risks/Concerns:**

- Upon completion of the restoration project, a lake management (maintenance) program will need to be funded (at a much lower level)
- Chemical treatment viewed by some as risky

**Public Support**

Considerable effort has been put into assessing support for the lake restoration program including herbicide treatment of the lake as evidenced by these methods of inquiry and very positive results.

**Herbicide Fund**

In the last 3 years, the LBA has included an option for members to contribute to an herbicide fund along with their membership renewal. That fund balance is now over \$2,000 even though

contributors were doubtful about whether another treatment would be possible. Indications are that contributions will increase as it comes closer to reality.

### **Public Meeting (Sept 10<sup>th</sup>)**

A public meeting was held with attendance of over 70 residents—one of the largest turnouts in recent LBA memory. It provided a good opportunity for education about restoration alternatives and assessing interest and support. Overwhelming support was expressed. Dissenting opinions were solicited but there were none.

### **Survey**

Along with one of the educational lake front landscaping mailings, a survey was mailed to over 500 residences around the lake (including Hudson) to assess support for the lake restoration program including herbicide treatment. To encourage greater return, the same survey was also sent by email to about 150 members who have provided LBA with email addresses. A reasonable effort was made to assure no duplicate responses were counted. There was a return of 74 surveys, with 91% of them strongly in favor of the treatment.

### **Petition**

At the public meeting, it was agreed that we could get a larger picture of support if we carried a petition door-to-door around the lake. That petition, to be signed by Stow Lake Boon residents only, specifically requests Stow CPC funding of the lake restoration program. At that meeting, numerous volunteers stepped forward to carry the petitions. As of writing this report we had **115 signatures** on the petition despite the short time available to gather them, the many residents not home and rainy weather. There were only a couple of people who declined to sign.

### **Resident Feedback**

Here are two samples from emails collected since the public hearing on September 10<sup>th</sup>.

***Hi Kent,***

***I was happy to see that you and others are working to secure funding to treat the lake again. I am in support of that.***

***I want to report that at the end of the 2nd basin, there are many weeds at the surface that impede swimmers and are quite dangerous. I am a swimmer myself and I can no longer swim out from our dock without the fear of getting entangled in weeds. It has never been like this (we have been here 7 years) and I assume that they have come back with vengeance after not being treated the 2nd time, was it 2 years ago? It is a very broad area and almost impossible to swim around to leave our dock.***

***I am extremely concerned about safety, the condition of our lake and my property value....especially if there is not an immediate solution.***

***Please keep me informed of any developments.***

***Sincerely,***

***Laura Diamond  
76 North Shore Drive  
Stow, MA  
978-567-9003***

.....



.....

Hi Kent,

Just a quick intro and hello. We live in the 3rd basin and want very much to see the weeds treated. This year they are the worst ever ..... and I've been here all my life (currently 55). I stay out of the politics of the lake because I do not want to add to the problem. (I have VERY strong opinions about anyone opposing treatment)

...

Freddy (and Michele) Dusseault  
43 Hale Rd  
978-562-5883

### What needs to be done

1. Obtain approval for a CPC funding proposal
2. Go to Stow town meeting for approval
3. Schedule the work—preferably spring of next year.

### Request

Would the CPC be willing to provide the funds equal to 70% of the Lake Boon restoration project - NOT to exceed \$80,500?

### Other success stories

#### Fort Meadow (Hudson/Marlboro):

I spoke to Michael Kaczmarek, Fort Meadow Reservoir Commission, and Priscilla Ryder from the Conservation Commission. Both are great supporters of chemical treatments.

Priscilla did a lot of research before supporting chemical treatment, talking to many towns. ALL towns she spoke reported that the only thing proven to work well if a lake is infested with weeds is chemical treatments. Dudley pond, for example spend 10 years trying non-chemical methods without any luck, only when they finally used chemicals did they get their pond under control.

#### Webster Lake ( <http://www.websterlakeassociation.com> )

Dick Cazeault from the Webster Lake association reports that they use herbicides on Webster lake. He reports that "On a scale of 1 to 10 (best), I would rate the effectiveness of our program at a 9". There are a couple interesting points regarding Webster lake:

1. Webster Lake is the town's water supply. Chemical treatment is in use in the town water supply and there are no reported problems
2. They have a lake-wide permit which allows residents to contact the WBA and have the professional applicator come out and treat their waterfront.

**Glen Echo Lake (Charlton)**( <http://www.glenecholake.org>)

Judie Benedetti, Vice President of the Glen Echo Improvement Association, highly recommends herbicide treatment. They have been doing a combination of herbicide and drawdowns for 20 years. This year they will pay ~\$4000 for their 116 acre lake and next year they will be able to skip any treatment. The reason they have such low costs is because they first completed a lake restoration project to bring the lake under control.

**Cushing pond (Hingham)**

The Hingham Community Preservation Committee is funding a lake restoration project with the support of the local Conservation Commission.