



Lake Waramaug Task Force, Inc.

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In Memoriam
Mechy Mestre Bonachea

The Lake Waramaug Task Force is a non-profit organization dedicated to restoring and maintaining lake ecology and water quality of Lake Waramaug and its watershed.

Spring 2015

Dear Friends of Lake Waramaug:

They said it couldn't be done. We said differently.

This year marks the 40th Anniversary of the Lake Waramaug Task Force. With your help and support, we did what many deemed "un-doable." We restored Lake Waramaug to its rightful place as the most beautiful lake in New England.

But our work is not over. We must remain vigilant and be proactive.

This Spring, for example, we installed two new, improved \$130,000 layer air systems at the tip of Arrowpoint to replace the existing land basin system. In early June our aquatic plant scientist Dr. George Knoecklein and his plant survey team trolled the lake inspecting the entire shoreline for invasive plants. Scuba divers will lay mesh to suppress any "beds" of growth and hand pull isolated plants targeted by Knoecklein. And we are moving ahead with plans for controlling sediment flowing into the Lake. All these LWTF initiatives are targeted toward keeping the Lake healthy.

Before the 1970's few people paid attention to Lake Waramaug's slow deterioration. Then, like a sudden summer thunderstorm, algae growth exploded! Swimmers were "slimed." An ugly foam littered the Lake's shorelines. Property values began dropping and alarm bells went off.

Experts advised that the frightening turn was the cumulative result of man's work on the land. Building and road development, lush lakeside gardens and lawns and ill-conceived farming practices were accelerating the flow of nutrients to the lake "fertilizing" it and feeding massive microscopic plant (algae) growth. More ominously, the experts said there were no quick fixes or proven solutions.

This wake up call led to the formation of the Lake Waramaug Task Force in 1975. This dedicated team of Lake Waramaugers, led by the late Janet Bates, educated themselves and the Lake community on how to save the Lake. The LWTF hired the best scientists and tirelessly raised funds to implement their often cutting edge recommendations.

Today we continue their work. Lake restoration is a relatively new field. Innovations and challenges arise with unnerving regularity. With your continued support, we will be able to stay the course and keep Waramaug pristine for the next 40 years. Please give generously.

Sincerely,

Thomas A.J. McGowan
Executive Director

Linda M. Frank
Chairman

LWTF Installs 2 New In-Lake Layer Air Systems

Lake Waramaug is now forever blowing bubbles. This Spring the LWTF installed two new \$130,000 in-Lake layer air systems off Arrowpoint. These new systems replace the land based aeration system (aka “Frost System”) that had been in service at the tip of Arrowpoint since 1983.

The new systems are each located about 350 feet off the tip of the point – one off the east side, the other off the west. They are permanently anchored and 8 to 10 feet below the water surface safely out of conflict with boats.

The new systems will mix and oxygenate much more water per day than the land basin system. This means we can:

- Significantly expand the Lake’s habitat for cold water fish – that eat alewife – and the Lake’s large bodied zooplankton that eat algae,
- Amplify our system to bind phosphorous with the Lake’s natural iron and remove phosphorous (aka algae fertilizer) from the Lake’s food chain.
- Enhance our ability to extend the spring dominance of the favorable diatom class of algae and suppress onset of harmful cyanobacteria (blue-green algae),
- Further improve oxygen levels in the deep anoxic layers of the Lake and reduce the amount of phosphorous released from Lake bottom sediments.



System on its way across the Lake to Arrowpoint

These systems, similar to the systems we run along the Route 45 shoreline, aerate far more water with much less energy than the ordinary bubble aerators commonly seen in ponds and lakes. They could more aptly be named the “Lake Turn Over Systems” because they mimic the natural lake turn over mixing of lake water that occurs in Waramaug and other deep lakes every spring and autumn. But instead of twice a year these large rocket shaped Layer Air structures are mixing and oxygenating large volumes of lake water 24/7 from June to September.



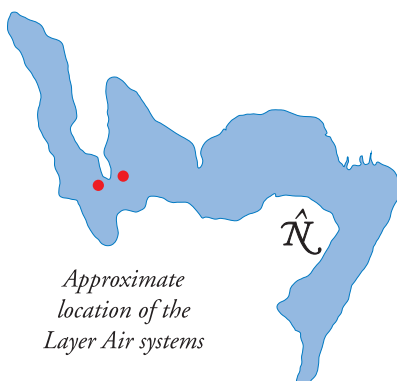
Systems being offloaded at Washington Boat Launch.



Pontoons were attached to the Systems to allow them to be floated and towed to installation points off Arrowpoint.

How Does the Layer Air System Work?

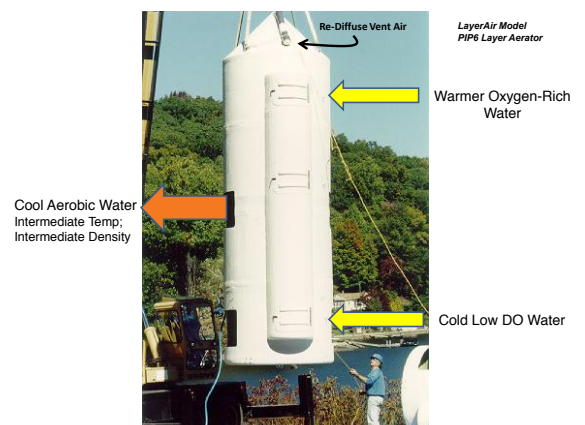
Think of these systems as very large and elongated front loading washing machines. However, in this washer the water enters from both the top and bottom (see yellow arrows on photo on page 4). Coming in from the bottom is cold water that is low in dissolved oxygen. It is pushed up within the ‘rocket’ chamber by incoming compressed air delivered via air lines laid on the bottom of the Lake from a compressor in our small building on the tip of Arrowpoint.

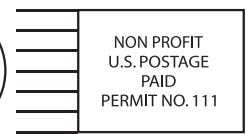


Approximate location of the Layer Air systems

The oxygen rich, warmer, less dense water that enters the chamber near the top is then pushed down by the rising bottom water which is heavier and denser but is being propelled upward by the compressed air. Thus we have a big washing machine continually mixing the water in the chamber and returning cool, oxygenated water (see orange arrow) into the mid-layer of the Lake.

Both the Layer Air Systems and the land based basin system were invented by our Lake scientist Dr. Robert Kortmann.





**Keeping abreast of the
LWTF's activities is
as easy as 1-2-3.**

1. Visit our website:
www.lwtf.org
2. Join Lake Waramaug Task Force now on Facebook!
3. Add your email to our email alert list. Use enclosed response form or email us at lwtfct1975@aol.com



Janet Bates, 1916-2015

Janet Bates, a founder and the first chairperson of the Lake Waramaug Task Force, passed away on April 30, 2015 at her home in Warren. She was just shy of her 99th birthday.

Janet was a person of enormous energy and vision. Beginning in the 1970s, she was the driving force behind the remarkably successful efforts to restore the water quality of Lake Waramaug at a time when algae blooms and invasive plants threatened to destroy the Lake's unique beauty and recreational value. Janet grew up on the Lake. She spent summers as a child on the Lake, and brought her own family there as well. She and husband George Bates moved to Warren permanently in 1964.

She is pictured, at right, in 2007, on the bench dedicated to her extraordinary inspiration and leadership of the Task Force.



Be Seen....And Be Safe

If you are a swimmer, you know that Lake Waramaug is a wonderful place to go for a nice, long swim. But, swimming across the Lake can also be a risky endeavor. In the water, you are not visible to boaters and water-skiers. Don't take a chance. Heighten your profile with a "safe-swimmer device." It makes you visible to boaters, jet skis, kite boarders or other potential human hazards while you are swimming.



Here are some websites where one of these types of floats can be purchased:

- <http://saferswimmer.com/>
- <http://swimsafetydevice.com/>
- <https://kiefer.com>