



## The Friends of Bolton Lakes 2018 Spring Update

As we move into lake season we thank you for your continued interest and support.

This past year has been another wonderful year of lake living filled with swimming, boating, fishing and general enjoyment of the Bolton Lakes. Although there were ups and downs we look forward to another great summer on the lakes in 2018.

In this newsletter we'll provide:

1. a review of the status of our lakes and watershed;
2. highlights of lake living from 2017;
3. FBL key accomplishments for the year;
4. a look forward toward 2018;
5. acknowledgements.

We are happy to announce our [Spring Seminar](#) to be held on the evening of May 23, 2018 at the Notch Municipal Building, 106 Notch Road, Bolton. The seminar will feature a talk by Cynthia Stevens of the Ball Pond Advisory Committee in New Fairfield, Connecticut. Cynthia will describe their experience with introducing sterile grass carp to control Eurasian Water Milfoil and Southern Naiad in Ball Pond.

In addition, the meeting will include an update on the status and plans for addressing invasive plants in the Bolton Lakes. All are invited to attend this informative free seminar.

### 1. Status of the Bolton Lakes Watershed for 2017

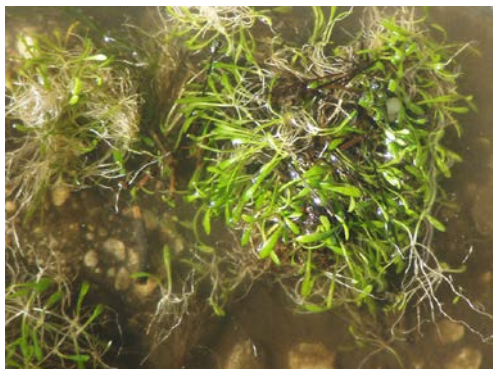
#### INTRODUCTION

The Bolton Lakes are a manmade chain of lakes within an approximately 2,400-acre watershed. Situated in the four towns of Bolton, Coventry, Tolland and Vernon, the lakes were [first impounded in 1832](#) to power the mills in Willimantic. The watershed consists of three inter-dependent lake regions with distinct environmental and recreational characteristics. Water and nutrients flow between the lakes from north to south.

#### INVASIVE AQUATIC PLANTS

Last year invasive aquatic plants required treatment in Lower and Middle Bolton Lakes.

[Curly-leafed pondweed](#) in the northern part of Lower Bolton Lakes was [treated on June 26th](#). While the plant is present only in relatively small areas, it is particularly persistent and will require continued attention for a few years.



1. Mudmat growing in gravel in shallow water (CAES)

[Mudmat](#) is an emerging threat in Lower Bolton Lake. In 2011 a [detailed survey](#) carried out by the Connecticut Agricultural Experiment Station (CAES) reported mudmat along the northeastern and Keeney Drive shoreline and, to a lesser extent along the western shore. Mudmat is a small, low-growing plant that can become extremely dense in shallow water. Improved water clarity and reduced competition from other plants could be contributing to the spread of this plant.

On August 3rd Middle Bolton Lake was [treated for variable-leaf milfoil](#), which has been found in the lake for many years. More troubling was the discovery of [fanwort](#) in Middle Bolton. While a small patch of this invasive weed had been found in the Lower Lake in 2011, it was successfully eradicated there. The beds found in Middle Bolton Lake are larger and are likely to require repeated treatments. As the growing season came to a close an [interim treatment](#) was done on September 12th. As of this writing, the Town of Vernon has allocated funds and initiated the steps needed for a treatment in late spring.



2. Fanwort removed from Middle Bolton Lake

Because of the natural north to south water flow it is important that residents of both Middle and Lower Bolton Lakes remain vigilant to reduce the chance of the weed finding its way into Lower Bolton. Small pieces of fanwort that break off from rooted plants will take root and start a new bed. This is the most likely way for fanwort to spread in the Middle Lake and to be re-introduced to the Lower Lake.

We urge residents and visitors to:

- avoid uprooting or disturbing rooted plants;
- pass along any information that might be helpful to locate beds that can be targeted for treatment;
- remove fragments that are floating or washed up on shore and dispose of them away from the lake;
- for Lower Bolton residents especially, report any sightings of fanwort fragments you come across;
- if you see a plant that you find suspicious report it using the [instructions on our website](#);
- carefully inspect boats, gear, and clothing, and remove hitch-hiking weeds and dispose of them away from the lake;
- refrain from dumping bait buckets into the lakes;
- avoid uprooting or chopping weeds with boat propellers by going through areas dense with plants or by excessive speed.

CHANNEL CATFISH STOCKING

Between 2007 and 2012, The Connecticut Department of Energy Environmental Protection (DEEP) Fisheries Division stocked over 17,000 non-native Channel Catfish into Lower Bolton Lake. DEEP suspended channel catfish stocking after the severe 2012 blue-green algae bloom. In September 2017 DEEP conducted a fish population study of Lower Bolton Lake and reported netting eight small channel catfish, raising the possibility that they are spawning in Lower Bolton Lake. DEEP is conducting a study to determine whether the Channel Catfish are in fact spawning, but the final report is not expected for several months.



3. Channel catfish caught in Lower Bolton Lake

DEEP agreed last year to refrain from stocking Channel Catfish into Lower Bolton Lake in 2018. A discussion about the possibility of stocking in 2019 will occur after this year's summer season, with the decision largely to be determined by lake health.

In the meantime, we are seeking photographs or other evidence of small channel catfish (as opposed to the native brown bullhead) or egg-laden adults. We are also seeking information regarding the impact on the bass population in the Lower Lake since the Channel Catfish were introduced. Please email your observations to [friendsofboltonakes@comcast.net](mailto:friendsofboltonakes@comcast.net). We also welcome your feedback, comments, and thoughts regarding resumption of Channel Catfish stocking.

#### UPPER BOLTON LAKE

The Upper Lake remains the most rural of the three lakes. Fed by 1,243 acres of watershed it continues to inspire those who venture out on it with its wilderness characteristics and natural beauty. The lake is populated by a distributed group of wood duck houses, blue herons and at least one active beaver hut. Last year the beavers continued to challenge Vernon Public Works by obstructing the flow from Upper to Middle Bolton Lake.

Although Upper Bolton Lake can be visited using canoes or kayaks, the lake is shallow and by late spring the aquatic plants become quite dense. Early spring is the best time to go out on the lake.



4. A blue heron takes flight from Upper Bolton Lake

Of note is the stand of Atlantic White Cedars dominating the upper reaches of the lake. A rarity in Connecticut, this grove is the focus of special preservation efforts by the four-town Bolton Lakes Watershed Conservation Alliance. In 2017, low water levels prevented early spring kayakers from viewing the cedars from the lake.

The Connecticut Experimental Agricultural Station Invasive Aquatic Plant Program last [surveyed](#) Upper Bolton Lake in July 2005. At that time they identified the most dominant plants in the southern portion as native [watershield](#) and [bladderwort](#). Small areas of [invasive variable-leaf milfoil](#) were also observed along the southern and western shoreline.

#### HATCH HILL CULVERTS AND ROAD CROSSING

In 2016 FBL advocated to the CT DEEP and State legislators that the culverts be improved to ensure the road is passable during storms and emergencies and to better control the water flow between the lakes. The State Bonding Commission approved funds to design and reconstruct the culvert. DEEP has informed us that the initial design is ready for review.



5. Upper Lake water level approaching the road

#### MIDDLE BOLTON LAKE

Water flows into Middle Bolton Lake from Upper Bolton Lake as well as from a 532-acre watershed. In addition to the residential neighborhoods surrounding the lake, much of the shoreline remains wooded. [Newhoca Park](#), a seasonal public beach and children's day camp, owned by the town of



Vernon offers a sandy beach and parking on a first come first served basis. In addition, the Bolton Lakeshores Association provides access to the lake for its members. Middle Bolton Lake can be accessed through the state-owned boat launch on Hatch Hill Road. Please observe the safe-boating practices noted above.



6 Clouds Reflected in Middle Bolton Lake

In 2017 Middle Bolton Lake experienced a resurgence in variable leaf milfoil, previously known to be present, and the discovery of [invasive fanwort](#), which was found in the lake for the first time. Chemical treatments were carried out for both plants.

Because the natural water flow is north to south it is important that residents of both Middle and Lower Bolton Lakes as well as visitors remain vigilant to reduce the chance of the weed finding its way into Lower Bolton. Middle Lake residents should continue to remove floating fragments and avoid disturbing rooted plants while Lower Lake residents should keep a sharp eye out for fanwort fragments.

### LOWER BOLTON LAKE

Water flows into Lower Bolton Lake from the Middle Lake and from its own 258-acre watershed. Surrounded primarily by year-round residential properties it has significant wooded shoreline and the Town of Bolton's popular Indian Notch seasonal public beach. In addition, the Rosedale Beach Association and Keeney Drive Association provide access to Lower Bolton Lake for their members.



7. Clouds reflected in Lower Bolton Lake

New England Aquatic Research (NEAR) issued their [annual report](#), funded by the Town of Bolton on February 23<sup>rd</sup>. According to the report Lower Bolton Lake has shown continued improvement in water quality over the last few years. Although there was a chemical treatment for curly-leaf pondweed last year, no treatments for algae blooms were needed and water clarity was good. Storm-water runoff has been an ongoing concern and will continue to be investigated in 2018.

## **2. Lake Living 2017**

### PIG IRON SWIM CHALLENGE

On Sunday July 23<sup>th</sup> the Newington Bicycle Shop, in collaboration with the Vernon Department of Parks and Recreation, held its third annual "Pig Iron Swim Challenge" open water races on Middle Bolton Lake. The weather and water conditions were ideal. Giant rubber ducks marked the course for the races, starting and finishing at Newhoca beach, and up to three miles in length. A total of 84 swimmers, age 9 through 71, participated cheered on by residents and friends. Many swimmers competed in more than one event so there was a total of 114 individual swims. States represented included Connecticut, Massachusetts, Rhode Island, and New York. The 2018 race is planned for Sunday, July 22<sup>nd</sup>. For more information and to see the 2017 results click [here](#).

## 48<sup>TH</sup> ANNUAL BOLTON LAKE SAILING CLUB REGATTA

On May 21<sup>st</sup>, 2017 twenty-one entrants turned out for the [49<sup>th</sup> Annual Bolton Lake Sailing Club Regatta](#) on Lower Bolton Lake. Bill Brangiforte once again took home 1<sup>st</sup> place at the event. The 50<sup>th</sup> Regatta will be held Sunday, May 20<sup>th</sup>, 2018. The club welcomes Sunfish sailors of any experience level to participate. Club members are happy to share tips on boat setup, faster sailing, race strategy and tactics, as well as help in understanding the rules. For more information, click [here](#).



8. The long-running The Bolton Lake Sailing Club Regatta has been a presence on Lower Bolton Lake for nearly five decades.

## AND...THE VIEWS



9. A spectacular sunset, highlighted by contrails across the sky, marked the end of a fall day on Lower Bolton Lake.

## **3. 2017 Friends of Bolton Lakes Membership-Sponsored Activities**

In 2017 we continued our activities of [water-quality monitoring](#), communication, education, collaboration and advocacy. Our activities are coordinated by the Board of Directors who act on your behalf to protect and enhance the health of the lakes.

### WATER QUALITY MONITORING

In 2017 FBL responded vigorously to the invasive fanwort found in Middle Bolton Lake. In July NEAR discovered and identified a single fragment at the Hatch Hill boat launch but there was no indication at that time that fanwort was present in the lake.

As part of the FBL Seminar on Invasive Aquatic Plants, we encouraged residents to bring plants in for identification. A resident brought in a fanwort fragment she had taken from the lake.



10. Fanwort collected near Wildwood Rd

As a result, we:

- launched a communication program to alert residents and seek their input;
- followed up on residents' reports by organizing volunteer kayak and pontoon boat surveys to collect, remove, and document fragments, and locate rooted beds;
- published a comprehensive [report](#) documenting the location of all fragments and rooted plants found to that point and putting forth recommendations to manage the outbreak;
- kept residents informed on how to reduce the risk of spreading the infestation to Lower Bolton Lake and within Middle Bolton;
- informed residents on [treatment plans](#) via our website and by email;
- followed up on all reported suspicious plants both before and after the treatment.

2017 water-quality data collection on Lower and Middle Bolton Lakes included:

- water transparency via a [Secchi disk](#) depth measurement;
- depth profiles of temperature and dissolved oxygen, and water alkalinity;
- depth profiles of water chemistry, primarily phosphorous and iron;
- sharing this data with experts including Northeast Aquatic research.

Laboratory analysis, when required, is entirely funded by member contributions and constitutes one of our major expenses. The sampling and analysis provides an early warning system to share with the professional limnologist hired by the towns.

#### COMMUNICATION AND EDUCATION

2017 activities included:

- maintaining and updating our [website](#), to provide timely information to our membership and the public;
- emailing alerts to our distribution list of over 200 residents, members, and colleagues interested in the health of the Bolton Lakes watershed;
- briefing town and state officials including the Bolton and Vernon Town Administrators, Bolton Board of Selectmen, Vernon Town Council, Vernon Conservation Commission, and the four-town Bolton Lakes Watershed Conservation Alliance;
- sponsoring four well-attended and informative public seminars
  - [Landscaping in a Watershed for Healthier Lakes and Rivers](#), Kathy Connolly
  - [Invasive Aquatic Plants](#) – The State of the State, Greg Bugbee
  - [4<sup>th</sup> Annual Watershed Community Forum: The Bolton Lakes in Context](#), Robert Thorson
  - [Geochemistry Study of Lower and Middle Bolton Lakes](#), Prof. Tim Ku and students
- sponsoring an Eagle Scout project, completed in 2017, to construct and install signage between the Middle and Lower Lakes warning visitors about the dangers of transporting invasive species between the lakes.

#### COLLABORATION

FBL is committed to fostering collaboration with town and state departments and officials, technical experts, and relevant non-profits to better understand how to address the key issues affecting the watershed.

2017 activities included:

- working with Bolton Lake Commissioner, Kim Welch, to provide an aquatic plant identification service. Citizens who find a suspicious aquatic plant in the watershed are encouraged to contact Kim using a photograph and the [steps outlined on our website](#);

- Regular meetings with the four-town Bolton Lakes Watershed Conservation Alliance to support the health of Upper Bolton Lake and the Atlantic White Cedar grove;
- working with the Coventry Lake Advisory and Monitoring Committee to address shared issues of watershed preservation and management;
- working with [Wesleyan University on their geochemistry study](#) of Lower and Middle Bolton Lakes;
- active participation in the [Connecticut Federation of Lakes](#) to share our insights and hear from others about the issues facing lakes across the state, the organizational structures and management practices they employ, and benefit from the expert knowledge found among the attendees and speakers.

#### ADVOCACY

We continue to advocate on behalf of our members regarding issues that affect restoring, maintaining, and enhancing the ecological health of the Bolton Lakes and their watershed.

2017 activities included:

- successfully opposed channel catfish stocking in Lower Bolton Lake. We believe that there is a stable population of catfish in the lake and that further stocking presents an unnecessary risk until Lower Lake remediation is fully completed;

#### **4. Planned for 2018**

##### DRAWDOWNS

In 2018, FBL will spearhead the submission of a single coordinated drawdown request from the Towns of Bolton and Vernon. The water level in the Upper Lake will be maintained by the Town of Vernon to reduce the likelihood of a fish-kill and to ensure protection of the Atlantic White Cedars.

Water levels in all three lakes will be co-monitored by FBL and the DEEP and water samples will be taken to document the concentrations of nutrients flowing through the watershed.

##### FRIENDS OF BOLTON LAKES 2018 ACTIVITIES

Our plans for the year include:

- creating a functioning, effective, affordable watershed management plan that includes: eliminating fanwort from the watershed, developing a plan for 2018 activities with the towns and DEEP;
- seeking grant funding to develop a long-range [EPA-compliant watershed plan](#);
- hosting the seminar “Use of Sterile Grass Carp in Ball Pond” on May 23<sup>rd</sup>, 2018;
- continue to provide email and web-based public awareness of lake status, news and events;
- hosting the 5th Annual Bolton Lakes Watershed Community Forum in October;
- continue to advocate to town and state officials on behalf of the watershed;
- continue observations, water-quality monitoring, and aquatic plant surveys;
- collaborate with the CT Federation of Lakes to conduct a lake water quality monitoring session for their Annual Meeting.

##### OPPORTUNITIES TO PARTICIPATE IN FRIENDS OF BOLTON LAKES ACTIVITIES

While we have a dedicated core of volunteers, we are still in need of more help to meet our goals. In particular, we would like additional participants to:

- Gather, author and distribute educational information;
- Participate in the development of science-based watershed management plans.



## MEMBERSHIP RENEWAL

We rely on your membership to ensure our ability to advocate on your behalf and on your financial support to fund equipment and chemical analysis collaboration! Please renew your membership for 2018 using the [form provided on our web site](#). If you are already a current member we thank you.

### **5. Acknowledgements**

We were glad to see so many friends and colleagues at our Fourth Annual Bolton Lakes Watershed Community Forum in October. Our thanks also to the Bolton and Vernon Town officials, and the State Legislators who took the time to attend. Thanks also to the residents who contributed [photos](#). We'd especially like to thank the many residents who reported their findings when they spotted suspicious weeds. This information was instrumental in guiding the search for rooted fanwort. Finally, we thank the volunteers who boated, kayaked, waded, and swam to help locate the fanwort beds that have been identified to date.