Middle Bolton Lake
Fanwort
Status and Recommendations

by

The Friends of Bolton Lakes

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Summary

A wide ranging multi-day search of Middle Bolton Lake by Friends of Bolton Lakes (FBL) volunteers was launched as a result of a local lake resident bringing to FBL's July 27th Aquatic Plants Seminar a fanwort fragment she found along the shoreline of Middle Bolton Lake.

Within 10 days of this initial identification, FBL volunteers completed numerous searches, both before and after herbicide treatment for variable leaf watermilfoil and have found and mapped ample evidence of an established and spreading fanwort presence. These searches covered much of the lake, but by no means, all of the lake or its shoreline.

Rooted fanwort plants have been identified in waters up to about seven feet depth along the shores of the northern half of Middle Bolton Lake. Both large, mature plant colonies and rooted individual plants were found. Several plants exhibited small flowers. In addition, numerous fragments ranging from a few inches to several feet in length were found along shorelines, floating and migrating in the lake.

The August 3 treatment to kill variable leaf watermilfoil in large areas of the lake will undoubtedly leave new space for fanwort fragments to root.

Volunteers will continue to monitor and gather fragments to minimize the risk of further spread. With the current high water levels we will also periodically monitor the Middle Dam spillway and exit brook for fanwort fragments. However, there is little that can be done to prevent the spread of fragments into Lower Bolton Lake except to gather and remove those which may be caught in the exit brook. It is interesting to note that the Massachusetts Dept of Conservation and Recreation recommends "*Screen the surface outlet of the waterbody to minimize downstream movement of fanwort, maintaining the screen as necessary to facilitate outflow.*"

Another risk is that, despite FBL's construction of a kiosk and posting DEEP's notices on the dam, it is still common to see kayakers cross the dam between the two lakes.

FBL will continue to notify residents of the entire Bolton Lakes Watershed of the fanwort presence and to keep a lookout and report any fanwort sightings.

Recommendations

Fanwort is a highly invasive aquatic plant. It is our recommendation that an herbicide treatment be applied to rooted fanwort areas of Middle Bolton Lake as soon as is feasible to avoid continued spread.

The use of screening at the Middle Lake dam should be considered to prevent fragment migration.

FBL would also like to work with the towns of Bolton and Vernon, the CT- DEEP and others to create more effective warning postings at launch areas and the dam in the Bolton Lakes and other regional lakes to make users more aware of the potential for fanwort migration among water bodies. Consideration of unmonitored launch ramp closures should be included in the discussion.

Discussion

The search was begun by notifying both Bolton Lakes watershed residents and most particularly Middle Lake residents to the possibility of fanwort being in the Middle Lake and asking for their help by looking at their frontages. Numerous responses provided guidance to pontoon boat, kayak, canoe and swimmer based searches. In many cases the positions of rooted plants and floating fragments were recorded via GPS so that a summary map could be created to provide guidance for treatment.

Residents have recovered numerous additional fragments, but without GPS data, we only report these in approximate regions. Fragments are found both floating and "landed" along the shoreline rocks/plants on a daily basis. They range in length from only a few inches to several feet. Figure 1 is a single outing's collection while Figure 2 provides a better view of what a plant fragment looks like when floating in water.

Figure 3 provides a summary of the GPS recorded positions of rooted plants and fragments to date.

While fanwort sightings are reported herein, it should be noted that other areas of the shoreline were also examined and numerous traverses of the main body of Middle Bolton Lake were made by volunteers on pontoon boats and kayaks. Fanwort was not found in the majority of the lake that was covered, however, we were unable to see to depths greater than about six feet due to limited water clarity. Also, some of the shoreline was not examined in detail and deserves further investigation.

Identification of the fanwort was significantly enhanced by the application of an herbicide treatment against variable leaf watermilfoil on August 3rd in selected lake areas, Figure 4. Within two days the milfoil was brown (some green tips remained) and any fanwort present was much more easily recognized by its vibrant green color.

All of the rooted plants and the vast majority of the fanwort fragments were found in the northern half of the Middle Lake. The larger colonies of rooted fanwort were found in a single cove, while smaller rooted plants, including individual stalks, were found in a few additional locations along the western and northern shorelines.

The individual stalks seem to indicate an ongoing process of fragmentation, migration, rooting and growing in new areas.

The much larger sizes of the more mature fanwort colonies located in the cove seem to indicate that this is not their first year in the lake.

Two small fragments were found along the shoreline just south of the point of land in Middle Lake and one fragment was picked up along the southern most shoreline of Middle Lake in an area remote from the dam spillway that is on the same shoreline.

No fragments or rooted plants were found near the southern shoreline dam spillway.

The need for quick action is heightened by the recent treatment of large areas of variable leaf watermilfoil which will increase the likelihood that fanwort fragments will find open, sunny spaces, formerly occupied by the milfoil, to take root and mature.

No residents have reported fanwort sightings in Lower Bolton Lake. Because of the heavy rains a steady flow of water over the spillway has persisted but no fragments have been detected near the dam or beyond to date.

A kayak and shoreline assessment of Upper Bolton Lake did not uncover any evidence of fanwort. It does not appear that the Upper Lake is involved despite the free motion of water through the culvert under Hatch Hill road.

The presence of fanwort in Middle Bolton Lake is part of a larger presence of fanwort in regional lakes and ponds. Two bodies of water in Vernon, Tankerhoosen Reservoir and Walker Reservoir East have been treated for several years for the simultaneous presence of both fanwort and variable leaf watermilfoil. Eagleville Lake in Coventry/Mansfield has also been treated for the past two years for fanwort. These are the only regional fanwort invaded water bodies we are aware of but there may be others as well. Transfer of fanwort among these water bodies by an active waterfowl population and/or recreational users is certainly possible. Additionally, fanwort is a popular (and illegal) aquarium plant that is sold in CT, raising the possibility of introduction from home aquariums being dumped or cleaned near or in the lake. Such an introduction path for the recent hydrilla invasion of Coventry Lake has been considered possible.

Figure 1 An outing's collection of fanwort fragments by several volunteers. Fragments typically range in length from a few inches to several feet. They are found either floating in the lake or washed up on the shoreline.

Figure 2 Example of a single fanwort fragment taken from Middle Lake. It is easiest to identify if you float it in a shallow pan of water to see the foliage

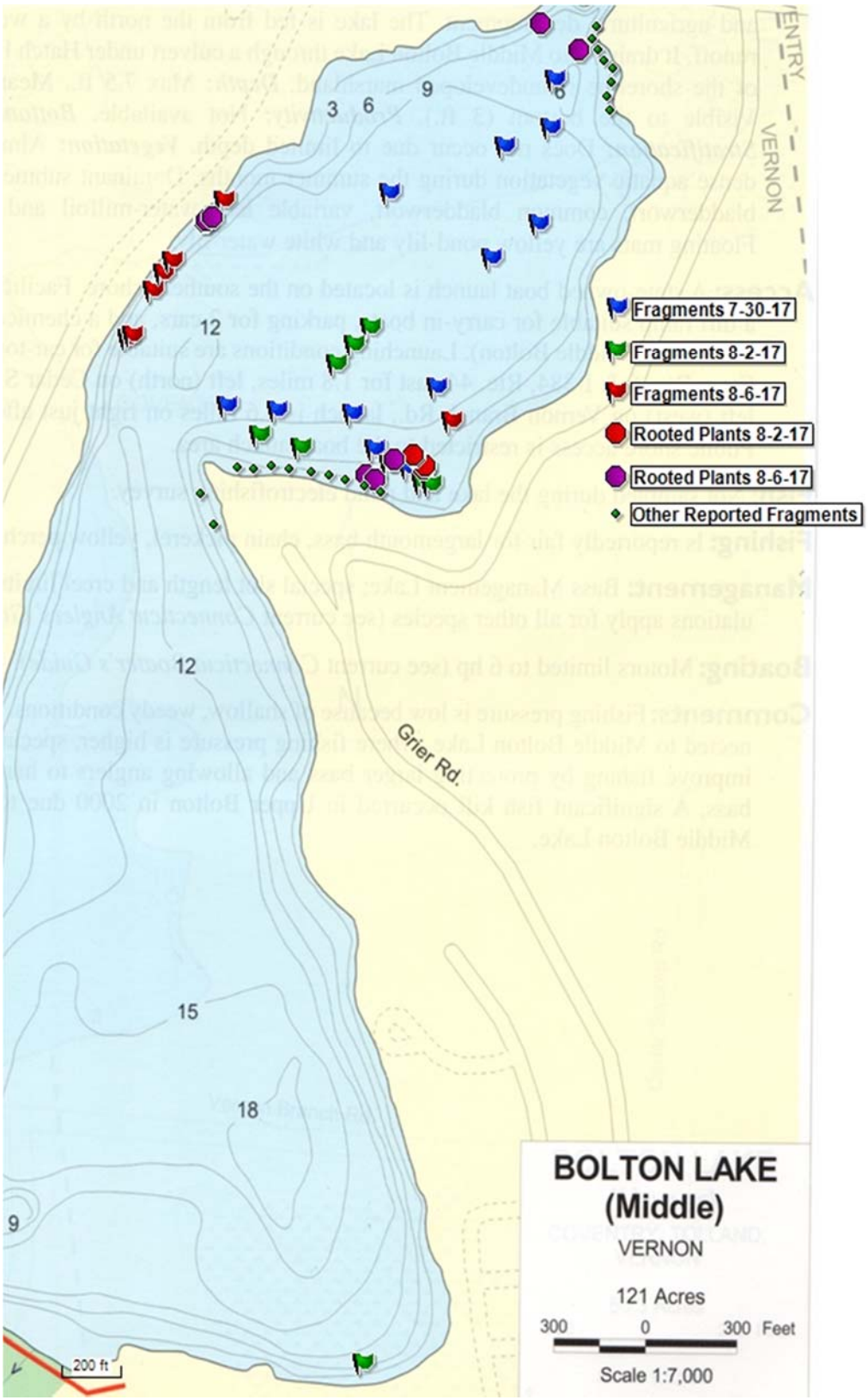

Figure 3 Location of fanwort rooted plants and fragments detected between July 30 and August 6, 2017.

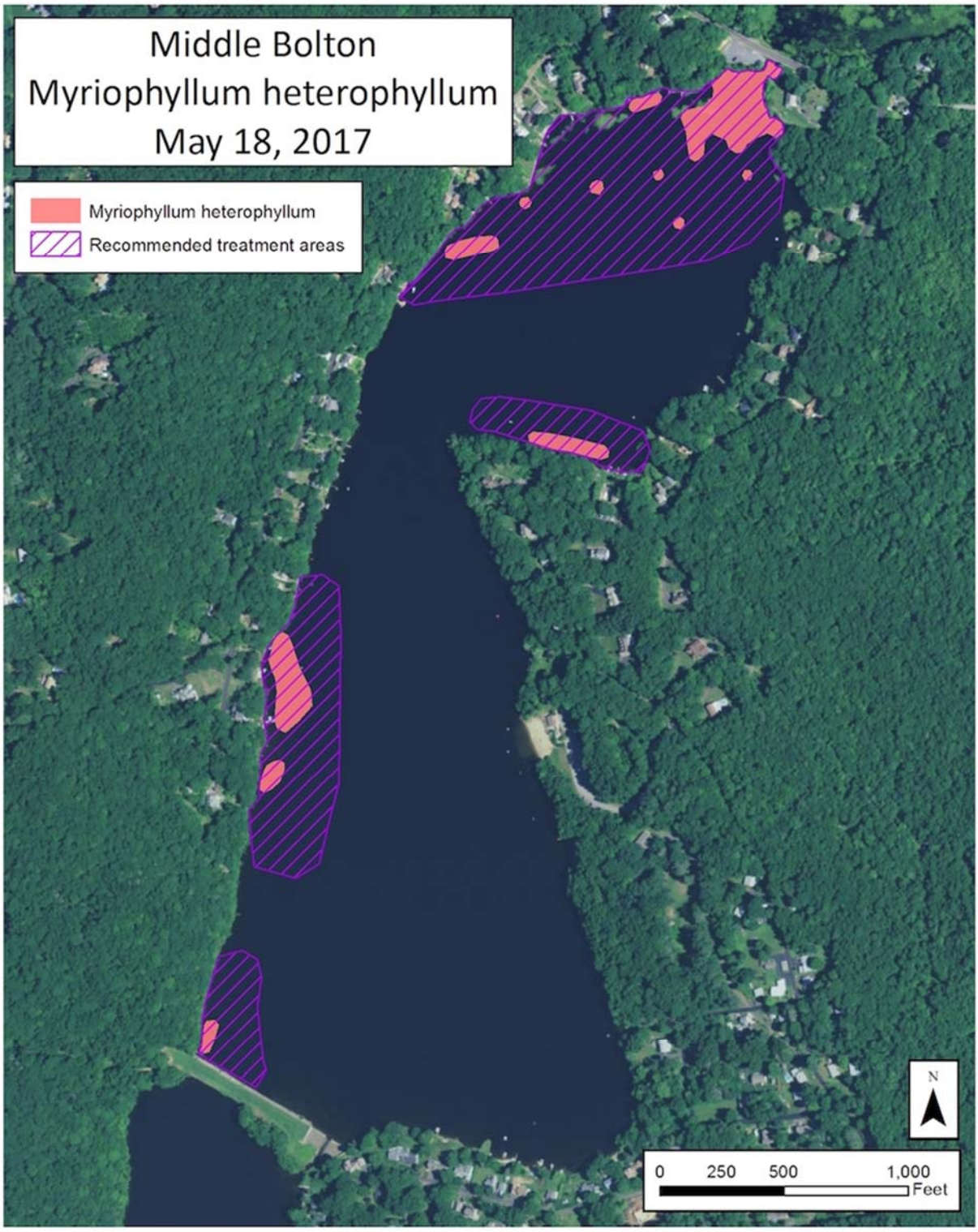

Figure 4 Location of variable leaf watermilfoil determined on May 18 and area of treatment on August 3, 2017