BROAD BROOK COALITION



www.broadbrookcoalition.org

BOARD OF DIRECTORS 2016-2017

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About Us

Broad Brook Coalition (BBC) is a nonprofit, all-volunteer organization incorporated in 1988 with the mission of preserving open space and promoting affordable housing. Under a memorandum of understanding with the Northampton Conservation Commission, BBC is responsible for the day-to-day management of the 850-acre Fitzgerald Lake Conservation Area. BBC's goals are to maintain and enhance the diversity and integrity of wildlife species and habitat at FLCA, promote outreach and education and provide public access for passive recreation that is compatible with habitat protection.

Our work in trail maintenance. stewardship, education and land preservation to expand FLCA is funded by the generous support of our members and occasional grants.

Water Chestnut Wars

A New Approach to Water Chestnut Control at the FLCA

For roughly a dozen years, volunteers in kayaks and canoes have dutifully ventured onto Fitzgerald Lake twice each summer to pull water chestnut (Trapa natans)*, an exotic invasive plant with the potential for severely harming the aquatic environment. Although we have made some progress in limiting its spread, water chestnut has persisted, waxing and waning in different sections of the lake, but we have never been able to entirely eliminate it. A new approach is clearly in order.

"This exotic invasive is a fierce competitor for native plants in Fitzgerald Lake."

Water chestnut is a robust aquatic plant that can tolerate a wide variety of growth conditions. A native of Eurasia and Africa, it was

Introduced as an ornamental in Cambridge, Massachusetts around 1874 (1). Subsequently, it has spread to lakes, ponds, streams, rivers and brackish tidal marshes throughout New England and the mid-Atlantic states (2). Rosettes of shiny, floating, triangular leaves are attached to a rooted stem, which can reach a length of 15 feet (Fig. 1). Feathery leaves adorn the stems underwater, signaling the presence of numerous nodes from which new growth can emerge. As they mature during the summer-and even into the fall - the plants produce small white flowers which give way to 1-inch nuts studded with four sharp

half-inch barbs that can lead to nasty wounds and even penetrate the soles of shoes. After a month, the nuts detach from the plant and drop to the bottom of the lake. According to the Massachusetts Department of Conservation and Recreation (2), each nut is capable of giving rise to 10-15 rosettes and each rosette can produce up to 20 seeds. Together with the fact that the seeds can remain viable for up to 10-12 years in the bottom sediment, these figures show that water chestnut control can be a formidable task!

We are eager to eliminate water chestnut from Fitzgerald Lake for many reasons, both environmental and aesthetic. This plant is a fierce

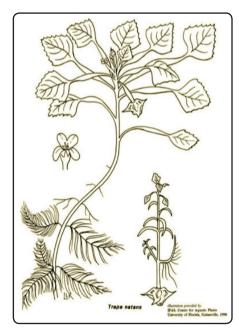


Figure 1

continued on page 2

Water Chestnut Wars, continued



Figure 2

competitor and, if left unchecked, can form dense mats over 100% of the water surface (Fig. 2).

Among the immediate consequences of water chestnut proliferation are the depletion of dissolved oxygen and a reduction in sunlight reaching submerged plants. These changes in turn lead to the suppression of native aquatic plants and invertebrates, a reduction of food sources for waterfowl, fish and invertebrates, and interference with boating and fishing.

On the bright side, muskrats and beavers have been found to eat the nuts, and archaeological studies of Neolithic sites in northern Europe indicate that the nuts were at one time consumed in quantity by humans. Even today, the nuts are valued for their nutritional and medicinal properties in some Asian countries (1).

The best way to control water chestnut remains somewhat controversial, though hand-pulling is clearly the most appropriate method for Fitzgerald Lake. Treatment with herbicides such as 2,4-D has been used in some instances, but we do not consider this an acceptable alternative as much of the native aquatic flora would likely be harmed or killed in the process, along with many of the vertebrate and invertebrate animals that depend on them for food. Other approaches include mechanical harvesting and winter water drawdown which may be appropriate for heavy infestations. For the relatively light infestation at Fitzgerald Lake, however, hand-pulling remains the preferred option.

The method that we intend to introduce this year is known as "Pull Early, Pull Often." Water chestnut seeds germinate when the temperature at the bottom of the lake reaches about 12°C (54°F), which in our region usually occurs in May. From three to four weeks after germination, in June,

rosettes begin to appear at the surface and, after another five weeks, the plants are capable of producing nuts (3). Starting in June, an observer will scout the lake and mark rosettes with a float or by their GPS coordinates. Thereafter, crews will go out on the lake at roughly three-week intervals both to pull the young water chestnut plants and to mark any new growth. The latter is necessary since not all seeds germinate at the same time and because the plant has a remarkable ability to regenerate new rosettes and new nuts from broken, submerged stems if they are not completely removed. It is therefore important to keep surveying and pulling until fall when the water becomes too cold to support further water chestnut growth. This summer, we also hope to test the usefulness of drones for scouting water chestnut in the lake (see accompanying article by Bill Williams). All of these approaches will take more scheduling than in the past, but should be more effective and will ultimately take fewer person-hours. We hope that you will join us in this effort.

- * Not to be confused with the sedge Eleocharis dulcis, also known as water chestnut, whose edible tuber is a staple of Chinese cuisine.
- (1) Hummel, M. & Kiviat, E. (2004), J. Aquat. Plant Manage. 42, 17-28.
- (2) http://www.mass.gov/eea/docs/dcr/watersupply/lakepond/ factsheet/water-chestnut.pdf
- (3) Peter Maleady, personal communication

Bob Zimmermann

Drone Will Conduct Aerial Survey of Fitzgerald Lake

Smith College Project Will Identify Spread of Water Chestnut and Other Aquatic Plants

Broad Brook Coalition is planning to have an aerial survey by drone of the aquatic vegetation in Fitzgerald Lake. The survey will be conducted by the Smith College Spatial Analysis Laboratory staff and students in conjunction with the City of Northampton. The twofold purpose of the survey is to identify the location of water chestnut, an invasive aquatic species, and to provide a year-to-year comparison of the spread of all aquatic vegetation on the surface of the lake.

BBC and other volunteers have been hand-pulling water chestnut from the lake for several years. Locating water chestnut from a canoe or kayak can be difficult and time consuming, as it frequently grows among other vegetation that can be quite dense, and patches of water chestnut can be

Drone Aerial Survey, continued

overlooked. Our time is better spent in pulling water chestnut rather than trying to locate it. Drones have been used successfully elsewhere to survey aquatic vegetation to identify the location of specific species such as water chestnut, which has a unique structure and color.

Aside from water chestnut, there has been a rapid proliferation of native aquatic vegetation in Fitzgerald Lake, particularly water lily and watershield.

This vegetation extends entirely across the lake in the western section, making it difficult to paddle through. We would like to have a record of the rate of spread of surface vegetation, and ongoing drone aerial surveys could provide a useful year-to-year comparison.

The Smith study will use equipment and software owned by the college. The drone would be flown from about three different locations on the perimeter of the lake to provide complete coverage. An initial test flight is scheduled for this spring, and we anticipate there will be at least two other surveys during the summer as more vegetation appears. This will provide timely information in advance of our water chestnut pulling workdays. The data collected by the drone can be downloaded to a tablet or printed out in hard copy for analysis before our workdays. This will enable more complete identification of areas where water chestnut is located and where hand–pulling efforts should be focused.

In previous years we have conducted two water chestnut pulling days, one in July and the other in August. This year, in order to make the program more effective, we will be scheduling additional workdays, starting in June and continuing during the summer. More volunteer help will be needed to ensure the success of this program.

This project will not only assist BBC in conducting its water chestnut control program but also will provide a valuable educational experience for Smith students.

Bill Williams

More than Trails Connect Lathrop Residents, BBC

Hans Van Heyst was an avid skier and hiker when he lived in Taos, New Mexico, so when he and his wife, Judy, moved to Northampton, they wanted to continue that connection with the outdoors. They found it at the Lathrop retirement community on Bridge Road, where the Van Heysts moved just



Arlene Jennings and her golden pup Pancake pause at the trail entrance in the woods behind the Lathrop community. Arlene is the liaison between Lathrop residents and BBC. (Margaret Russell)

over two years ago. The two trails that loop through seven acres of woods at Lathrop and reach into the Fitzgerald Lake Conservation Area were "one of the attractions" of Lathrop, Hans said.

In winter, Hans hikes the trails on snowshoes. In warmer weather, he is part of a hiking group of Lathrop residents who go out in the woods regularly, a group that he started. Early on, Hans said, he noticed the two trails weren't well marked; signs simply pointed to one direction or another. Finding it confusing, Hans and fellow resident Alex Neubert blazed the trails: blue on the east trail and white on the west trail. Since then, he's noticed more people using the trails, both of which cross winding Pine Brook and lead to Boggy Meadow Road and thus into the 850 acres of FLCA.

The increase in hikers using the trail – including younger people who don't live at Lathrop - was noticed by others. Carol Neubert, president of the residents' council, called the Lathrop North Council, said that was a factor in identifying one prong of an environment goal established by the council for 2017. The goal is called "Earth Care: Increasing Environmental Awareness and Action." One group of residents is checking on energy use and ways to reduce it, another is addressing trash and recycling, and a third is looking at the trails and open space. A key aspect of the latter, the council decided, is cooperation with the Broad Brook Coalition. "We should work together," Carol said. Lathrop resident Arlene Jennings is the council's liaison to BBC. Last fall she urged residents to join BBC so they can support BBC's work managing the large conservation area. Several became members after the annual meeting, joining others who have supported BBC for many years.

Lathrop Residents, continued



A tall pine off the Lathrop east trail is studded with large holes made by a Pileated Woodpecker. (Margaret Russell)

With the help of Dave Herships, co-chairman of BBC's Trails Committee, members of the council met with Pete Westover and Dick O'Brien of Conservation Works, LLC to find out ways to improve a section of the Lathrop trail for less mobile residents. They suggested digging out roots and rocks that might trip up walkers, digging out the top layer of grass and soil and laying composite stone so that those with walkers and canes can use the trail to reach Pine Brook.

Based on a proposal submitted by Conservation Works, the Lathrop North Council applied for, and received, a \$5,000 grant from Kendal, parent company of Lathrop that awards grants every year to its affiliates. "Our hope is to get more people into the woods," Carol said.

Judy Hyde is the steward of the east trail and Helen Armstrong is steward of the west trail. While Lathrop maintenance staff have lent some assistance, help also comes from BBC volunteers. Last fall, for example, they brought their chain saws to cut down a tree that fell on the trail. Other help has come from the conservation committee of the Easthampton Lathrop community, whose members have

removed invasive plants. "They are very active," Arlene said, full of praise for the Easthampton members.

One of the next steps in this cooperative effort will be some additional benches along Boggy Meadow Road. Lathrop hikers suggested a few benches where they could take a rest and enjoy the sights and sounds. So Dave Herships and his volunteers will build and place the benches sometime this spring, weather permitting.

Margaret Russell

New Bridge, Boardwalk, Dock Celebrated

The Board of Directors of Broad Brook Coalition invites members and friends to a celebration of the completion of the new bridge, boardwalk and dock on Sunday, April 23, at 3 pm, the day after Earth Day.

Although the major project to rebuild and renovate these 20-year-old structures was completed last fall, it came too late, the board felt, to hold an outdoor celebration. A final touch will be added this month: Doug Thayer of Thayer Woodworking and Design will build two benches at the end of the dock. That project is funded in part by a \$1,000 grant from the Norcross Foundation.

The gathering will take place at the North Farms Road entrance at the start of the new bridge and boardwalk. Following remarks by BBC President Bob Zimmermann and refreshments, a brief guided walk will be offered.

The event on April 23 will also be an opportunity for the board to thank all those who made the \$87,500 project possible, including the state Recreational Trails Program of the Department of Conservation and Recreation, the Northampton Community Preservation Committee, the city Department of Planning and Sustainability, Student Conservation Association/AmeriCorps, contractors Conservation Works and Thayer Woodworking and Design, BBC members and the corps of volunteers who put in more than 580 hours of labor.

In the event of rain, the celebration will take place the following Sunday, April 30, at 3 pm.

Margaret Russell

2017 Spring Walks and Talks

Please check the Broad Brook website (broadbrookcoalition.org) for updates on any of these programs, or call David Pritchard (413-268-3668) or Bruce Hart (413-584-4176). All walks are free.

Mother's Day Bird Walk

Laura Beltran

Sunday, May 14: 7:30-9:30 a.m.

North Farms Rd. entrance

This will be a beginner/intermediate bird walk at the height of songbird migration. Join Laura Beltran, long-time birder and an educator at Arcadia Wildlife Refuge, as we walk the woodland and lakeside trails at Fitzgerald Lake, looking for warblers, thrushes, vireos, swallows, and herons. We will continue on to the dam and Cooke's Pasture, where orioles, tanagers, bluebirds, and hummingbirds are likely. All ages are welcome. Bring binoculars if you have them.

Birding for Children

Dan Ziomek

Co-Sponsored by BBC and Hampshire Bird Club Education Committee

Saturday, May 20: 8:30 a.m.

Meet at North Farms Road entrance

Dan will have just completed his six-week class, Birding for Children, at the Hitchcock Center for the Environment. Dan is generously giving us part of the following weekend for a program open to all children at FLCA. For this children's program, we want to enlist support from any interested birders who would like to help us get "the eyes on the prize." This supports the growth of children's awareness of birding, habitat and the great outdoors. To enhance the experience, extra binoculars, a spotting scope, and other technical resources will be available.

Looking at Trees by their Bark

Nancy Goodman

Sunday, June 25: 10:00 a.m.-1:00 p.m.

North Farms Rd. entrance

Bark provides the best clue to identifying trees in winter, but why pay attention to it in summer, when trees are fully leafed out? For one thing, the leaves of many trees may be out of reach, and while the general shape may be visible, subtle features may be lost. And bark can give us information about the age and condition of a tree that isn't apparent from examining its leaves. This walk will examine trees in various ways, with a focus on the characteristic bark of different species in different habitats and at different stages of growth.

Nancy has been interested in native New England plants for more than 35 years. Part of her quest has been to spread the joy of being able to ID trees by their bark, thus opening a new perspective on nature by seeing more in the forest as you walk. Nancy leads classes at the Hitchcock Center, New England Wildflower Society, Pioneer Valley Institute, and MA Audubon.

Night Sounds at Fitzgerald Lake

Molly Hale

Saturday Aug. 26: 8:30-10:00 p.m.

Take a walk to explore the sounds of the woods and shoreline at night. We'll be on trails using flashlights (bring your own, plus extra batteries). We'll talk about the sounds we hear and also spend several minutes experiencing the dark in silence. To hone our hearing to the sounds of the wild, we'll request people to refrain from much talking while we walk. Be prepared for mosquitoes and ticks. Adults and children welcome, but space is limited to 10 participants; please call Molly at 413-585-0791 or 413-336-1348 to register.

Molly has been an active participant with BBC for many years, leading walks, advising us on habitat and wildlife issues, and serving on the Board of Directors. She teaches natural history at Greenfield Community College, works for Conservation Works, LLC, and does project work for state Division of Fisheries and Wildlife.

A New Link Between Conservation Areas

The City has recently purchased an 18–acre property that links the Fitzgerald Lake Conservation Area (FLCA) to the east with the Beaver Brook-Broad Brook Greenway (BBBBG) to the west (red arrow). The parcel, which is heavily wooded, represents a valuable resource for wildlife and serves as a conduit for the movement of deer, moose, bears, bobcats and numerous

small animals between the two conservation areas. This acquisition also opens the possibility of constructing a hiking trail from North Farms Road to the upland portion of the 100-acre BBBBG. BBC contributed \$7,000 toward the \$46,400 purchase price of this ecologically valuable and strategically located property. Look for a conservation area sign on North Farms Road in the spring.



A new purchase of 18 acres on the west side of North Farms Road builds on the greenway connecting Beaver Brook-Broad Brook Conservation and Fitzgerald Lake Conservation Areas.



BBC board member Bill Williams photographed an otter slide in the snow on the bank of the dam at Fitzgerald Lake this winter. Naturalist John Body (naturenerdsrule.com), who took this shot of a river otter in the same area several years ago, said the otters' dens "are around the bend past the bird blind, but they travel up the lake to fish. They have to get up and over the dam and then on the way back, they have fun sliding down the hill!"

Workdays at the FLCA: Spring and Summer 2017

Shrubland Habitat and Native Plants Saturday, May 6, 9:00-12:00 a.m.

Almost ten years ago, we established three 'islands' of native shrubs in Cooke's Pasture to provide food and habitat for shrubland birds and small mammals. Each year we return to prune the shrubs, cut back competing undergrowth, and replace plants that have not survived the winter. We were unable to access the area last year because Boggy Meadow Road was flooded, so we'll have to catch up this year. Tools will be provided, though additional clippers are always welcome. Wear long pants and bring along your favorite insect repellent. Meet at the former Moose Lodge parking lot at the end of Cooke Avenue at 8:30 a.m. or at the Fitzgerald Lake dam at 9:00 a.m. Contact: Bob Zimmermann at 585-0405.

Annual Cleanup at the North Farms Road Entrance Saturday, May 20, 9:00-11:00 a.m.

Each year we devote one day in the spring to cleaning up the North Farms Road entrance to the FLCA, including clearing winter debris from the path to the bridge and boardwalk, picking up trash in the parking lot, and hand removal of invasive plants such as garlic mustard, Japanese knotweed and multiflora rose in the adjoining woods. Please help us spruce up this heavily used route to the conservation area. Contact: Dick Wynne at 584-7930.

Removal of Invasives on Boggy Meadow Road Sunday, July 9, 10:00 a.m.-1:00 p.m.

The margins of roads provide excellent habitat for the growth of invasive plants. We have surveyed and located many patches of invasives along Boggy Meadow Road, which connects the former Moose Lodge parking lot at the end of Cooke Avenue with the Fitzgerald Lake dam. We will remove invasive plants from the road and the adjacent wooded areas by hand: pulling, cutting and digging. This is another project postponed from last year due to flooding of the work site, and we're eager to get back to it this summer. Tools will be provided, but if you care to bring shovels, mattocks and lopping shears, it would be a help. And don't forget gloves, sunscreen and insect repellent. Meet at the former Moose Lodge parking lot. Contact Bruce Hart at 584-4176.

Removal of Water Chestnut from Fitzgerald Lake Workdays throughout the summer; dates to be announced

This year we will implement a new approach called "Pull Early, Pull Often" for controlling the proliferation of invasive water chestnut in Fitzgerald Lake. We'll start scouting for emerging water chestnut rosettes in May and early June. Once we find them, we will organize crews to go out onto the lake to remove the plants by hand at 3-week intervals through August and perhaps into September. Scheduling will depend on when we first detect the plants on the lake surface, but we intend to start putting crews together in mid-May. We would be very pleased to have you join us in this new effort. We will need volunteers with canoes or kayaks, but we can always use the help of those who don't have their own boats. If interested, contact Bob Zimmermann by email (raz@umass.edu) or phone (585-0405) for further information or to volunteer.

A Personal Connection with FLCA

The annual donations of our members don't often come with comments, but sometimes BBC supporters include a word of thanks with their donation. We especially appreciate these notes because they remind us of the personal connection many people have with the land they walk frequently.

Here are a few that arrived with membership renewals last winter:

"The new boardwalk and dock are a wonderful improvement. Thank you!"

"We walk these lovely woods almost every day from our home at the Lathrop Community."

Our son and daughter-in-law "are fans of Fitzgerald Lake Conservation Area. In fact, they named their recently adopted Samoyed puppy Fitz in honor of their favorite family hiking area."

"We have been contributing members since moving to the neighborhood six years ago and are so grateful to have the BBC trails and nature area available."

Cold Weather Walks: Trees and Tracks



Frank Grindrod of Earthworks examines grooves where a squirrel gnawed on a hemlock trunk in the winter tracking walk at FLCA. (Dave Pritchard)

No mosquitoes! No sun spray! No tick checks! Broad Brook Coalition sponsored two late fall/early winter walks at Fitzgerald Lake this year, to look closely at things we often just walk by without noticing. Michael Wojtech, author of Bark: A Field Guide to Trees of the Northeast, led a late-November walk focused on



Participants in the tracking walk look for signs of porcupine and deer in a grove of hemlock. (Dave Pritchard)

identifying trees by their bark. Each species has its distinctive features—rough or smooth, cracked or peeling, with ridges, plates, or scales—that can be used to recognize it long after the leaves have fallen. As Michael pointed out, though, the characteristics of a tree's bark often change dramatically as



Walk leader Frank Grindrod consults a tracking quide to show porcupine trail patterns. (Dave Pritchard)

it ages, so be aware: that smooth-barked young red maple, for example, will form rough curling plates by the time it hits late middle age.

Frank Grindrod, of Earthwork Programs, led an intrepid band on an early January walk to examine signs of life in the winter woods. As luck saw fit, there was an inch of fresh light snow on the ground for this walk, covering up most of the dog and dog-walker tracks and setting the stage for several new trails that had been made overnight, including a crisp set of red fox prints and the wide lumbering trail of a porcupine. In addition to numerous signs of beaver activity, Frank also pointed out where squirrels had been gnawing grooves in a big hemlock trunk and turkeys and white-tailed deer had been pawing up the leaf litter searching for mushrooms that he assured us were a kind of truffle. Truffles at Fitzgerald Lake! Who knew?

Dave Pritchard

To receive occasional email alerts regarding BBC Walks and Talks, Volunteer Workdays and other news, go to the website (broadbrookcoalition. org) and look for "email list" under the events tab at the top of the page.

To Our Loyal Volunteers

We extend our heartfelt appreciation to the many volunteers who have served as trail stewards, helped with the construction of the new bridge and boardwalk, pulled and dug invasive plants, and donated their time in many other ways throughout 2016:

Fred Beddall, Rufus Chaffee, Stewart Clark, Doris Cohen, Len Cohen, Fred Contrada, Keith Davis, John Dunne, Geoff Friedman, David Fradkin, Bruce Fuller, Alex Ghiselin, George Kohout, Sheryl Hall, Steve Harding, Bruce Hart, Jan Howard, Ken Howard, Scott Kennedy, Michael Kesten, John Langhans, Thom Martens, Nathan Miskiv, Fred Morrison, Michael Murphy, Alex Neubert, Hana Nower, Hannah Petersen, Amy-Louise Pfeffer, Lewis Popper, Jim Reis, Norma Roche, Bill Rosen, Bob Rundquist, Jon Sass, Chris Schmidt, John Sheirer, Mary Jo Stanley, Jon Steinberg, Paul Thaler, David Wicinas and Henry Zucco.

Look for these Spring Woodland Flowers on Your Next Visit to FLCA

(Photographs by Bob Zimmermann)



A member of the orchid family, Lady's Slippers will bloom in late spring into early summer.



Foamflower has delicate white feathery plumes.



Starflower is a perennial herb that depends on native bees for pollination.



Skunk cabbage is one of the earliest flowering plants to emerge in spring. The small shoots are a favorite food of bears.



Yellow Trout Lily has gray-green mottled leaves that resemble the coloring of brook trout.

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Please Join Us! If you're not already a member, please complete this form and return it with a check to: Broad Brook Coalition, P.O. Box 60566, Florence, MA 01062 □ \$25 for Individual membership □ \$35 for Family membership. All contributions are tax deductible. _____ State_____ Zip _____ ___Email ____ ____ Please sign me up for a paperless newsletter (email address required). ___ I prefer to receive a printed newsletter by mail. ____ I've included an additional tax-deductible contribution to the Land Preservation/Stewardship Fund. Please do not include my name on any listing of contributors to BBC. Donate Online! Renew your membership or join BBC on our website (click on Join/Support) Broad Brook Coalition needs your help, too! We appreciate membership dues, but want you know that you can contribute in other ways. Members and friends are needed to help carry out our goals. Please consider one or more of the following volunteer opportunities: _Trail Committee (maintenance and repair) ___Stewardship Committee (includes invasive species removal) ___Land Preservation/Acquisition Committee ___Occasional Workdays ___Education Outreach

___Newsletter writer ___Other (please specify)_____