



**NEWTON
CONSERVATORS**

SUMMER ISSUE

NEWSLETTER

Newton's land trust working to preserve open space since 1961

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Building Resiliency into the Modern Landscape

By Dan Jaffe, Propagator and Stock Bed Grower, New England Wildflower Society



Asclepias syriaca



Ageratina altissima



Fragaria virginiana



Rhus aromatica



Rudbeckia hirta

Anyone who's been involved in an invasive removal project knows that the job is hardly over once the last buckthorn or garlic mustard has been pulled. Let's assume for a moment that we do indeed call the project complete after we've pulled that last plant out, and we walk away from the site feeling a wonderful sense of accomplishment. In no time at all, the thousands (if not millions) of seeds below our feet will send out radicals and begin the process of recolonizing the site. Nature abhors a vacuum, and to bare soil, one seed is much like another.



Glossy Buckthorn

Yet this is a common mistake among invasive removals; mature plants are removed without a complete plan for further maintenance. Whether due to lagging support or simple time constraints, many invasive removal projects fail or leave us in a purgatory of constant maintenance without an end in

sight. Occasionally a post-invasion planting plan is employed though more often than not these plans do not take the real-world conditions into account. These sites are heavily disturbed with an established seed bank of invasive species. Any hope that the simple act of invasive removal will naturally lead to the reestablishment of a healthy native ecosystem is quickly squashed.

A planting and maintenance plan is essential for long-term success, and though the idea of planting bleeding heart (*Dicentra* spp.) or garden phlox (*Phlox paniculata*) is often recommended, it is not a recipe for success. Instead, we should be turning to those sorts of native plants that the average gardener is happy enough to do without. We need strong-spreading, colonizing native species capable of not only dealing with difficult planting conditions but also with pushing back against would-be re-invaders. In addition to being able to handle the difficult growing conditions, we cannot forget the purpose of the work. We do not want to simply replace the invasives with any old pushy plant; we want to build habitat. With this in mind, it behooves us to choose plants

that support as much biodiversity as possible.



Black Swallow-wort

Ironically some of New England's most ecologically viable species also happen to thrive in some of the most commonly invaded sites. Think of your typical roadside invasion or abandoned lot. Similar conditions are often present in dry New England

meadows. These sites are often sunny, well drained, and highly disturbed. Common invaders include black swallow-wort (*Cynanchum louiseae*), common buckthorn (*Rhamnus cathartica*), Japanese barberry (*Berberis thunbergii*), oriental bittersweet (*Celastrus orbiculatus*), tree of heaven (*Ailanthus altissima*), and Bradford pear (*Pyrus calleryana*).

Re-invasion is often accomplished by high seedling recruitment, and thus our strategy should not only be to replace the invasive shrubs with native shrubs but also to ensure high competition at the ground level. Walk around a number of meadows in New England looking closely at the ground level, and you will notice a rich array of very low-growing species that we don't normally think about being present in meadow conditions. In wild places where meadows are never cut down, this ground layer is not as



Fragaria virginiana

necessary, but in the modern landscape where roadsides and fields are often mowed annually, this ground layer is absolutely essential.

Two native species that play this role exceptionally well are wild strawberry (*Fragaria virginiana*) and creeping dewberry (*Rubus hispidus*). These species are fast-moving, low-

growing species capable of spreading around larger clumping plants and effectively competing with any new seedlings that may try to pop up after the initial removal stages. These plants also provide an excellent example of what is truly important in terms of building healthy habitat. When one thinks of valuable pollinator plants, species such as bee balm (*Monarda didyma*) or purple coneflower (*Echinacea purpurea*) come to mind. Though both of these plants do indeed support some very important pollinators, they don't have anything on the power of strawberries and dewberries.



Monarda didyma



Asclepias syriaca

We have a tendency to think only about the adult stage of pollinators, focusing on the butterflies to the exclusion of the caterpillars that matured into those very same butterflies. The adult stage monarch is happy feeding on a variety of flowers while the caterpillar is the one that truly needs milkweed.

Though bee balm is a great nectar source, its value as a host plant is limited to approximately ten species of native caterpillars. Compare that to the nearly 80 species that host on wild strawberry and the nearly 100 that host on creeping dewberry, and our idea of what makes a plant a good pollinator species begins to mature. As a bonus that very same strawberry (*Fragaria virginiana*) makes a wonderful replacement for the typical American lawn.

Above the ground layer a mixed planting of Canada goldenrod (*Solidago canadensis*) and common milkweed (*Asclepias syriaca*) can fill the next niche in our meadow/roadside/abandoned lot. Canada goldenrod is the goldenrod that gives the entire genus a bad rap for being too weedy for garden settings (and goldenrods have nothing to do with hay fever other than blooming at the same time of year as ragweed (*Ambrosia artemisiifolia*), the real culprit behind hay fever. Though there are some wonderful goldenrod species for garden settings, it's the vigor of Canada goldenrod that makes it the best choice for invaded sites.



Solidago canadensis and *Eutrochium maculatum*

Supporting about 125 different native lepidopteran species in New England, there is not a single herbaceous species that provides more ecological value than goldenrod on our landscape (though the asters come close). Common milkweed doesn't support nearly the same level of diversity, but instead it supports a number of specialist's species including the monarch butterfly, milkweed tussock moths, milkweed beetles, and a slew of different native bees. For many sites this can be the end of further plantings. A regular check of the area can go a long way in allowing the natives to fully colonize the site and keep the invasives at bay. A regular mowing in early spring can cut back the woody species while leaving the herbaceous ones untouched, making dealing with woody seedlings a lot easier.



Rubus allegheniensis

For many sites woody species are required, and in this case a combination of native sumacs (*Rhus* spp.) and raspberries (*Rubus* spp.) make for additional competitive pressure as well as wonderful wildlife value (both in terms of berries and protein-rich insects for our local birds). Staghorn sumac (*Rhus typhina*) is the strongest spreading species though winged sumac (*Rhus copallinum*) and fragrant sumac (*Rhus aromatica*) are also great

choices. Fragrant sumac's shorter stature makes it a fine choice for roadsides and parking lot islands as it does less to block sight lines than its larger relatives.

This exact same strategy can be employed in wet areas with species such as broad-leaf cattail (*Typha latifolia*), speckled alder (*Alnus incana* ssp. *rugosa*), sensitive fern (*Onoclea sensibilis*) and boneset (*Eupatorium perfoliatum*). Shady sites would benefit from white wood aster (*Eurybia divaricata*), white snakeroot (*Ageratina altissima*), and Canada mayflower (*Maianthemum canadense*). They would also benefit from



Maianthemum canadense

great rosebay (*Rhododendron maximum*) under planted with a combination of black huckleberries (*Gaylussacia baccata*), white wood aster (*Eurybia divaricata*), white snakeroot (*Ageratina altissima*), and Canada mayflower (*Maianthemum canadense*).

Our native flora is full of plants capable of performing many functions on the landscape. In a changing world we need to look beyond the natural areas and start thinking about how we might be able to build a connecting habitat across the entire area. While the species mentioned here may or may not make decent garden plants, their vigor might be the exact traits that make them invaluable on the landscape in some of New England's most difficult sites.

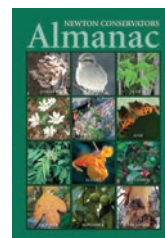


For more information about Dan's new book *Native Plants for New England Gardens* go to the following link: <http://bit.ly/NativePlantsBook> ♦

It's Summer. Enjoy!

Shop online at www.newtonconservators.org/books.htm to purchase Newton Conservators' publications. *Almanac* is \$19.95 + shipping, and the *Trail Guide* is \$8.95 + shipping.

- Members receive a discount from these prices when purchasing online.



MISSION Newton Conservators, Inc.

The Newton Conservators promotes the protection and preservation of natural areas, including parks, playgrounds, forests and streams, which are open or may be converted to open space for the enjoyment and benefit of the people of Newton. It further aims to disseminate information about these and other environmental matters.

A primary goal is to foster the acquisition of land, buildings and other facilities to be used for the encouragement of scientific, educational, recreational, literary and other public pursuits that will promote good citizenship and the general welfare of the people of our community.

The Newton Conservators was formed as a not-for-profit organization 57 years ago in June 1961.

The Newton Conservators' Newsletter® is published four times each year by the Newton Conservators, Inc., in June, September, December, and March. Deadlines for these issues are the second Friday of the month before the issue is published.

We welcome material related to our mission from any source. Send proposed articles or letters by email in MS Word or rich text format to bethwilkinson@mac.com. Digitized photographs, maps and diagrams are also welcome.

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President's Message

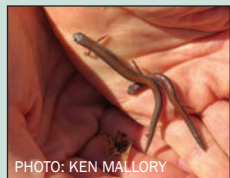


Vernal Pool Walk in Webster Woods

Dear Conservators,

Spring is in full bloom now, and summer is not far behind. As I write, my front yard is littered with red maple flowers, and the buds on my redbud and dogwoods are swelling. The woodcocks have returned to Woodcock Meadow in Nahanton Park; visiting them at dusk is a magical experience. All in all, it's a perfect time to get out in Newton's open spaces!

Many people joined naturalists Eric Olson, Jon Regosin, and Richard Primack for the first walks of the season in Webster and Hammond Woods, and by the time you're reading this, more walks will have taken place.



Red-backed Salamander

Invasive pulls will continue throughout the season. Please check your email, our Facebook page, or the spring issue of this newsletter for information on when you can join the invasives team to help the insects and birds that depend on our native plants for sustenance.

Over one hundred members had a great time at our annual meeting on May 2. You can read more about the meeting in Margaret Doris's article in this issue.

Mayor Fuller announced the membership of the Webster Woods Advisory Panel on March 15, and I'm pleased to chair it. Already, panel members are at work, thinking about the best strategies to preserve the portion of Webster Woods owned by Boston College. Part of the panel's mission is to share their expertise with the community, as you will see from Eric Olson's article on "How Large Is a Vernal Pool?" in this issue.

Panel member and BU biology professor Richard Primack and I appeared on *The League Presents*, the NewTV program produced by the Newton League of Women Voters, and had a great conversation with new host Ellen Grody. You can see the half-hour program here: <https://bit.ly/2FouzZ4>.

Work on the Riverside Trails project continues to progress. Members of the collaborative group are interviewing firms that have applied to design a new trail from Riverside to Lyons Field. That firm will conduct community meetings to discuss the project. More details soon . . .

Thanks to everyone for your help to preserve — and to enjoy — nature in Newton.

Beth Wilkinson

Bright Colors on Birds



Northern Cardinal Female and Male

You must have noticed how birds are very alert and are always on the lookout for predators. All of the songbirds that are now nesting around our homes are small and vulnerable. Hawks, owls, loose house cats, and even some other species of songbirds will prey on them. Have you considered how dangerous it is to have very bright plumage under these circumstances?

One of the earliest singers in Newton is the bright red male Northern Cardinal. This bird sits at the very top of trees and loudly sings to attract a mate and to warn other male cardinals that he is on his territory. In behaving like this, he is putting himself out on a limb. Any passing Cooper's Hawk or Sharp-shinned Hawk can pick him off up there. Both species of hawks are in Newton. This is in defiance of Darwin's "survival of the fittest." Such behavior is an invitation to eliminate his genes from the next generation. He is a candidate for a "Darwin Award" that is given to people who perform very stupid stunts (see <http://darwinawards.com>).

And those Northern Cardinals are not the only brightly beautiful birds that behave this way. What is going on? Whatever it is, it has been going on for millions of years, while evolution harshly eliminates behavior that is not directed at survival. It is a credit to Darwin's genius that he saw through this problem in his theory of evolution. It emerges that a female's choice of a mate is a more powerful factor in the survival of the fittest than is the avoidance of predators.

At any rate, this is referred to as "**sexual selection**" among evolutionary biologists. Sexual selection is part and parcel of the broader "natural selection" that refers to the adaptation of creatures in a way that makes them more and more fit to survive in a particular environment.

The bright yellow American Goldfinches moderate the danger due to their breeding plumage. The males have the

golden feathers beginning in April and lasting until October. During the winter months, when no mating is occurring, the males revert to a drab color and are very similar to their female peers.

There are also many brightly colored wood warblers that migrate through Newton in the spring. When they travel back through Newton during the fall migration, their plumage has changed drastically. They are much more subdued and are referred to as "confusing fall warblers" because they are often difficult to tell apart. Going north to mate, they exhibit very attractive appearances. After raising their young, they drop the conspicuous feathers for the dangerous flight to the tropics.



Male Mallard

The ever-present Mallards in our ponds and the Charles River give another variation on this theme. The familiar iridescent green head of the male Mallard is a common sight for all of us. Less known is the fact that these male Mallards lose

their bright green heads and other bright plumage from June to September. You may not have missed seeing the standard male Mallards in our summer months. They are there, but in "eclipse" plumage that resembles the female Mallard's plumage. Ducks are courting during our winter months and lay eggs in the early spring. Their courtship timing seems all off and is different from that of our songbirds.

The Scarlet Tanagers that nest in Newton have a molting cycle similar to that of the American Goldfinches. The males molt into the brilliant red bodies with jet-black wings in March. They arrive in Newton in May, as flashy as a bird can be. In the fall, as they migrate south, they are much more difficult to spot. Scarlet Tanager males have the bright red plumage from March to August. They then molt into a greenish-yellow body plumage with black wings. This



Scarlet Tanager

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resembles the female Tanager's garb. The reasons are probably the same as the previous birds with this pattern of molting.



Baltimore Oriole Male



Baltimore Oriole Nest

A final example of bright male plumage is our Baltimore Oriole. In this species the males do not shed their orange and black plumages for the fall and winter cycle. But they do not

take an active part in building the interesting nests. Their flashy plumage would show predators the way to the nest site. Common Grackles, in particular, would make nasty use of that information, as might American Crows. Here is an Oriole's nest that was along Beaconwood Road next to Cold Spring Park a few years ago.

An interesting group of shorebirds, the Phalaropes, reverse the roles played out by our songbirds. Red, Red-Necked, and Wilson's Phalaropes are the three species of Phalaropes that migrate past us along our coasts. The female Phalaropes have flashier plumage, defend territories, attract their mates, lay eggs, and leave. The duller looking males incubate the eggs and raise the young. The sexual selection process plays out in the same fashion but with the genders switching roles.



Red Phalarope Female in Grass



Red Phalarope Male Defending Nest

In the pictures at left, the female Red Phalarope is stalking through the grass, while her male counterpart below is crouching defensively near his nest. The nest is very camouflaged and difficult to see. His plumage resembles his mate's, but is considerably duller and so is better suited to lurking around the nest, undetected.

During our summer months you can see all of the above species in Newton's

open spaces except the Phalaropes. The parents will not be showing off, but will feel enormous pressure to feed their growing youngsters. You can thus catch a glimpse of them because the pressure to find food eclipses their usual fear of humanity.

A little walk outside along a trail in Newton is a healthy and relaxing activity. Having the goal of finding an oriole's nest and watching the parents bringing food for the chicks gives the walk an extra pleasure. Go do it. ♦

— Pete Gilmore



RENEW YOUR MEMBERSHIP OR JOIN TODAY!

YES, count me in! I want to be a nature steward and help Newton Conservators protect and preserve the natural areas in our community.

Please renew/accept my tax-deductible membership at the level checked below:

- | | |
|---|--|
| <input type="checkbox"/> \$250 Directors' Circle *NEW! | <input type="checkbox"/> \$50 Family Membership |
| <input type="checkbox"/> \$125 Patron | <input type="checkbox"/> \$35 Individual Membership |
| <input type="checkbox"/> \$100 Donor | <input type="checkbox"/> \$15 Student Membership |
| <input type="checkbox"/> \$75 Sustaining Member | <input type="checkbox"/> Additional Contribution \$_____ |

**Want to make an even bigger impact?
Help us support these conservation areas:**

Woodcock Meadow \$_____
Ordway Endowment Fund \$_____
Land Stewardship Areas (Dexter Rd., Bracebridge Rd.)
\$_____

*Contributors at this level receive a copy of the Newton Conservators Almanac. All new members receive Walking Trails in Newton's Parks and Conservation Lands.

NAME _____ EMAIL _____
ADDRESS _____ ZIP _____

☐ I would like to volunteer!
Please email me.

Please make checks payable to Newton Conservators, Inc. and send to P.O. Box 590011, Newton Centre, MA 02459, or visit NewtonConservators.org/membership.htm to renew/join online. Consider including Newton Conservators in your estate planning. Contact us at president@NewtonConservators.org.

Newton Conservators' 57th Annual Meeting

Change was the order of the evening on May 2, when The Newton Conservators convened their 57th Annual Meeting at Nonantum's Post 440. After a winter that seemed to end by fits and starts, the approximately one hundred Conservators and friends were eager to engage with change in all its various permutations: historic change, imperceptible change, positive change, and forces of change.

During the social hour, attendees had the opportunity to observe caterpillars brought by Caterpillar Lab founder Sam Jaffe. Jaffe shared not only the larval lepidoptera but also the Caterpillar Lab's operative philosophy: as learners experience caterpillars' life cycles firsthand, they often develop a new sense of ecological scale and time. Science teachers from Newton North and South high schools were also on hand to introduce the work of the next generation of Newton environmentalists.



Beth Wilkinson and Ruthanne Fuller

The changing of the guard was also apparent when Newton's new mayor, Ruthanne Fuller, made her first appearance before the Conservators in her new role as Newton's highest elected official. Mayor Fuller made special note of instances where the City and the Conservators are cooperating to realize mutual goals. Notable among the areas of active support, the Conservators are represented by

three directors and two advisors on the city's new Webster Woods Advisory Panel. Other dignitaries in attendance were State Rep Ruth Balser and several City Councilors.

The highlight of the evening was a presentation by best-selling author and naturalist Peter Alden on "Changes in New England Wildlife over Time." As a special opportunity for meeting attendees, Alden — who organized the world's first Biodiversity Days with Harvard's Dr. Edward O. Wilson in 1998 — began the evening with a pre-dinner tour along the boardwalks of the adjacent Charles River Pathway where he



Peter Alden's tour along the Charles River Pathway

identified local birds and flora, and discussed invasive plant species such as tree-of-heaven and garlic mustard.



Clockwise starting at the far left: Hugh Wilkinson, Beth Wilkinson, Peter Alden, Mayor Ruthanne Fuller, Larry Burdick, Pat Burdick, Peter Schuntermann, Karen Komar, and State Rep. Ruth Balser.

As the main event, Alden described the evolution of flora and fauna here in New England since Thoreau's time. He also discussed how bird and mammal life has been changed and challenged, as new elements such as invasive alien plants, pesticides, bird feeders, introduced species, and widespread bans on trapping and hunting have been added to what was once a stable system.

In her annual report Conservators' president Beth Wilkinson reviewed the changes and challenges that

engaged the Conservators in the past year. Highlights were efforts to preserve Webster Woods, the collaboration with Bike Newton and the Solomon Foundation and



Ted Kuklinski and Peter Alden

the Conservation Commission to grow the trails along the Charles at Riverside. There was also participation in the Needham Street Area Vision Group (making the case for more open space — and more connections to already existing open space that is nearby — and for more trees and storm-water drainage along Needham Street), and representation at meetings sponsored by the City Parks and Recreation Department to review plans for re-doing Levingston Cove

at Crystal Lake to mitigate the damage from erosion. But looking forward, she said, the challenge is sustaining the momentum to ensure the Conservators remain an effective agent for change in Newton.

"Those of you at this event form our core," Wilkinson said. "We hope that you will help us to reach out to the community. Please share your newsletter, talk about what we're doing."

"We are recruiting a coordinator for our popular walks," she continued. "We need a membership coordinator. We're beginning a revision of the beloved Trail Guide, and we need a project manager to see it through production."

The annual awards ceremony recognized efforts to protect, preserve, and reclaim Newton's natural areas and to educate and disseminate information about these and other environmental matters. Honors presented included the

ALL PHOTOS: HENRY FINCH EXCEPT WHERE NOTED

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Environmentalist of the Year Award — presented to a local citizen or group who has contributed to improvements in the city's environment; the Charles Johnson Maynard Award — to recognize efforts to improve biodiversity, habitat reclamation, and natural resource protection; and Director's Awards for other notable achievements.



André Wilson and Katherine Howard

The Environmentalist of the Year award was presented to André Wilson, for honoring and extending the legacy of parents Richard and Andrée Wilson, by making their public access path through Jolly's Hollow and the Wilson Conservation Area, along with the views from and all around the path, things of beauty, positive environmental impact, and avenues to community engagement and education.

"It is wonderful to see children walking to Mason Rice, their parents, neighbors out doing errands, runners, dog walkers, aqueduct hikers, all using the path, stopping to talk to André, and expressing gratitude for the beautiful and peaceful pathway," explained Conservators' Treasurer Katherine Howard. "André engages them, educates at the same time, gets them to come back and help, and overall demonstrates, through actions and example, what love of a place, of parents, and of the planet, can spur one very wonderful and very determined person to do for others and the greater good."



Pete Gilmore and Liane Hartnett

The Charles Johnson Maynard Award was given to Cris (Modestino) Criscitiello for his work to improve biodiversity, habitat reclamation, and natural resource protection. Cris, a retired cardiologist, was a long-time board member and advisor of the Newton Conservators. He was part of

the Kessler Woods Committee that successfully urged the City to use Community Preservation Act funds to purchase these woods in South Newton in the years 2002-2004. He was active in the Land Management Committee that catalogued the biodiversity of many of the open spaces in Newton over a period of years.

Cris "was a wise and gentle supporter of the nature lovers in Newton for many years," remembered Board member Pete Gilmore. "He was considered the guru of Cold Spring Park. He and his wife, Nancy, hosted the Newton section of

the Greater Boston Christmas Bird Count for a long time." This event has now passed across Raeburn Terrace to Liane Hartnett, who received the award for Cris, who was unable to attend. Cris' "kind and energetic presence among us is missed," Gilmore concluded.



Eric Olson and Anndy Dannenberg

Newton Conservators' Directors' Awards were given to Anndy Dannenberg, a member the Science Department at Newton North for seventeen years, and to Madhumita Bhattacharya, who teaches not only biology but also Conservation Biology & Environmental Science, a course that she started at Newton South.

In addition to her classroom duties (which include introducing a sustainability course this year), Anndy Dannenberg coaches the Newton North Envirothon Team, which has repeatedly placed first in the state competition (and second in the nation in 2013). She encourages her students to engage with the natural world, giving them project-based assignments, helping them to find salamanders hiding in Newton's woods, and chaperoning two student trips to Nicaragua.



Richard Primack and Mita Bhattacharya

Mita Bhattacharya, who holds a PhD in Conservation Biology from Boston University, is interested in pollinator conservation, invasive species, and other conservation related issues. Her goal in teaching is to help students value nature's services, embrace sustainability, become stewards of biodiversity, and informed and active citizens.



Newton North students Gus Betts-O'Rourke, Cody Kotake, Laura Schmidt-Hong, and Einat Gavish

2018 will doubtless be yet another year of change, both anticipated and unforeseen, for the Conservators. But one thing is certain not to change: when next May rolls around, the Conservators will once again gather and celebrate their 58th year of actively promoting

the protection and preservation of natural areas in Newton. ♦

— Margaret Doris

Massachusetts Land Trust Coalition's 28th Annual Conservation Conference

On Saturday, March 24, four members of the board — Beth Wilkinson, Ken Mallory, Ellen Gibson-Kennedy, and I — attended the Massachusetts Land Trust Coalition's 28th Annual Conservation Conference. The conference is the longest running, and in fact the first, conference of its kind in the country.

This year's theme was "Leading Locally in a Changing World." There were three sessions during the day as well as a plenary session with a keynote speaker. Each session had 12 simultaneous workshops to choose from, so there was something of interest for everyone. Between each session we had plenty of time to network and explore the various vendor tables. Summaries of the most inspiring and useful sessions follow.

For the first session, Ken and I both attended Russ Cohen's talk on edible native species. Russ talked about his work



Handout from Russ Cohen's Edible Native Species talk

encouraging people to interact with the land through their taste buds, and even brought in several treats he had cooked for us: native and nonnative edibles including Autumn

Olive fruit leather and cookies made with shagbark hickory nuts and black walnuts. He introduced about 30 native species that can be either found or grown in Massachusetts. The following website is Russ's compilation of more than 150 edible wild plants native to the Northeast: <https://bit.ly/2shqAJZ> We are hoping to invite Russ to evaluate our own Cold Spring Park and advise us on planting certain edible native plants in our open spaces.

After lunch Ellen attended a session run by Nature Groupie, "an online community for outdoor enthusiasts who want to volunteer for nature." Nature Groupie is run by the University of New Hampshire Cooperative Extension and is geared to stewardship and citizen science. Organizations can post their events on the website, and volunteers can look at the bulletin and sign up to volunteer outdoors. We will be posting select events like our invasives pulls on their website

to connect to new people and volunteers throughout New England via the online calendar and registration system. See their website for more information: <https://bit.ly/2siIlba>

A session Ken went to entitled "Tackling Invasive Plants: A Guide for Land Stewards" featured Chris Polatin of Land Stewardship, Inc., and Jennifer Forman Orth of the Massachusetts Department of Agricultural Resources. Strategies for identifying and controlling invasive plants such as mile-a-minute vine, kudzu, giant hogweed, and stiltgrass among others were identified, and management practices for their control included non-chemical and chemical options. The board will discuss if some of these techniques may be useful in controlling the plants that are invading our open spaces in Newton.

In the final session, Beth learned about using wildlife cameras to inspire land conservation. Three staff members from the Nature Conservancy and the Trustees of Reservations showed incredible footage from their wildlife cameras. They explained how those photos are being used to do citizen science, especially in the Berkshires. Beth was inspired to make plans to set up her own wildlife camera in Jolly's Hollow (see our spring 2018 newsletter) and hopefully share the resulting pictures on our social media sites. Find out more about using wildlife cameras from the Nature Conservancy: <https://bit.ly/2lyIKk6>

Ken, our resident drone enthusiast, enjoyed the session about using drones to protect resources. The Wellesley Conservation Council in Wellesley, Massachusetts maintains ten sanctuaries totaling 44 acres, and they use a DJI drone to monitor their properties in Wellesley and adjacent communities. The discussion with three members of the Council focused in particular on Cold Spring Brook Sanctuary that runs along Route 9 between Oak and School Streets in Wellesley. Abutting neighbors to the property had over time encroached on the sanctuary, and the Council used drone photos and GIS (Geographic Information System) to contest this violation of protected land. Some questions that the board could consider are whether encroachment is a problem in Newton, and what the effectiveness of using a drone is compared to going out on foot.

The four of us had a great time and came back energized and full of ideas to promote and protect our open spaces in Newton. ♦

✿ Nyssa Patten

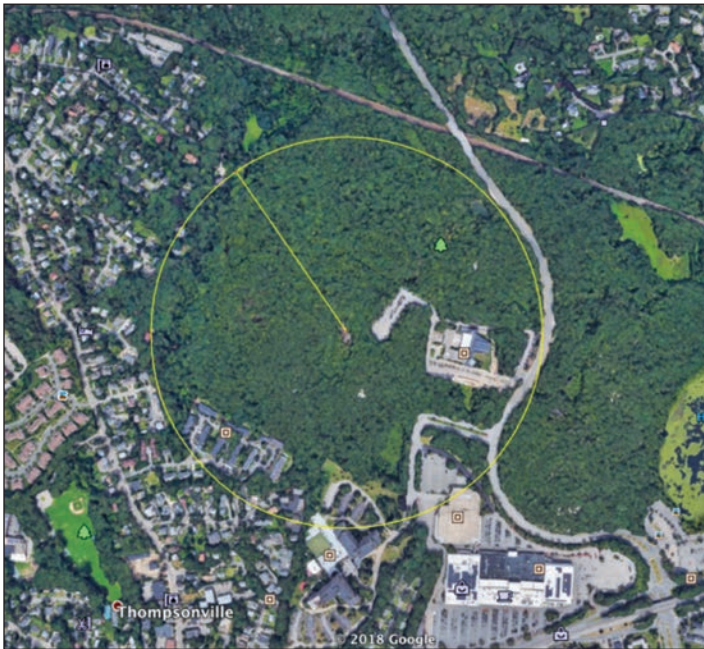
How Large Is a Vernal Pool?

By Eric Olson, Senior Lecturer in Ecology at Brandeis University

How large is a vernal pool? Mention this habitat to ecologists, and they will not think of water so much as *animals in water* — salamanders, frogs, gliding fairy shrimp, and other species that appear abruptly and fleetingly in these special places each spring. The various amphibians that arrive at vernal pools in March or April will reside in and near a pool only long enough to mate and lay eggs; all the rest of the year they are forest dwellers. When we ask about a vernal pool's size, we need to see in our mind's eye a vital halo around it, encompassing shady forest understory with rich loose soil, fallen trunks and limbs to hide under, and plenty of worms and bugs to eat. "How large" becomes "how far?" as in, "how far will the frogs and salamanders that gather in the spring disperse during early summer?"

Here I illustrate what I have learned so far, using imagery for Bare Pond in Webster Woods.

Vital Area for Spotted Salamanders



McDonough and Paton (2007) used radiotelemetry to track both male and female spotted salamanders dispersing from a vernal pool in Connecticut. They found that females tended to be the longer distance travelers, and estimated that a forested circle of radius 370 meters would be needed to protect 95% of them. The resulting life zone surrounding Bare Pond, shown above, encompasses 106 acres. Using the polygon tool in Google Earth Pro I found that 20 acres of the life zone has already been paved over or otherwise developed, or approx. 1/5th of the total. Fortunately, most

of this developed area is on the periphery of the zone. Animals dispersing north, west, or south from the pond have a good chance of finding suitable habitat.

Vernal Pond Spotted Salamander



The vital area for wood frogs is only slightly smaller than the area needed by spotted salamanders. Studies of the adults of this species by Baldwin, Calhoun, and deMaynadier (2006) and Vasconcelos and Calhoun (2004) both found maximum dispersal distances of 300 to 340 meters.

References

- Baldwin, R. F., A. J. K. Calhoun, and P. G. deMaynadier. 2006. Conservation planning for amphibian species with complex habitat requirements: a case study using movements and habitat selection of the wood frog *Rana sylvatica*. *Journal of Herpetology* 40:442–453.
- McDonough, C. and Paton, P. 2007. Salamander dispersal across a forested landscape fragmented by a golf course. *The Journal of Wildlife Management* 71: 1163–1169.
- Vasconcelos, D., and A. J. K. Calhoun. 2004. Movement patterns of adult and juvenile *Rana sylvatica* (Le-Conte) and *Ambystoma maculatum* (Shaw) in three restored seasonal pools in Maine. *Journal of Herpetology* 38:551–561. ♦

WALKS PREVIEW FALL 2018

www.newtonconservators.org

Please note: Walks meet at different times. Some trips are weather dependent. Please call trip leader if in doubt.

Saturday, Sept. 29 at 1:00 pm

CANOE AND KAYAK TRIP AT NAHANTON

This canoe/kayak trip will start in Nahanton Park. We'll paddle upstream on the Charles against the current to the far reaches of Needham, Dedham, and Wellesley. Bring your own canoe or kayak, or rent one at the canoe/kayak rental stand in Nahanton Park. The area up-stream is a region of significant beauty and almost pristine conditions. Fall is a good time to view the many turtles and other wildlife along this stretch of water. We should see numerous fish, including pickerel, bass, and carp. We also will see many birds that make their spring/summer/fall homes in this habitat. We'll pass by Powell's Island, Millennium Park, and the large Dedham Ditch, then stop for lunch on Cow Island. On the return trip, the current will help carry us back. It's an interesting trip for adults and children and usually is completed within three hours.

Trip Leaders: Bill & Dottie Hagar (617-964-2644)

Sunday, Oct. 7 at 8:00 am

COLD SPRING PARK BIRD PHOTOGRAPHY WALK WITH BROOKS MATHEWSON

Birds make outstanding photographic subjects. Each species presents both unique challenges as well as enormous opportunities to create inspirational, visually compelling work. In this walk Brooks will discuss the basics of bird photography and the elements involved in creating an exceptional avian image. Topics covered include choosing the right lens, understanding light, creating sharp, properly exposed images, important compositional techniques, where and when to find different species of birds in Newton and beyond, and creating ecologically meaningful images.

Park at the Beacon Street parking lot and meet at the circle. Beginners as well as experienced birders — and photographers of all levels are welcome. Boots are recommended. If in doubt about the weather, please call.

Trip Leader: Brooks Mathewson (617-851-3513)

Saturday, Oct. 13 at 8:00 am

NAHANTON BIRD WALK WITH HAYNES MILLER



Nahanton Park offers a mix of woodlands, wetlands, edge habitat, and meadows along the Charles River, making it one of the best birding spots in Newton for fall migrants as well as

resident species. Bring binoculars if you have them. Beginners as well as experienced birders are welcome. Walking shoes are recommended. Co-sponsored by Friends of Nahanton Park & Newton Conservators. Meet at the Nahanton Street entrance between the JCC and the Charles. Parking is available inside the park. Cancelled if steady rain. If concerned about the weather, please call.

Trip Leader: Haynes Miller (617-413-2419)

Sunday, Oct. 14 at 8:00 am

FALL BIRD WALK AT COLD SPRING PARK



Fall is an excellent time to look for birds. We'll explore the various habitats at Cold Spring that are available inside the park. Park at the Beacon Street parking lot and meet at the circle. Bring binoculars if you have them. Beginners as well as experienced birders are welcome. Boots are recommended. If in doubt about the weather, please call.

Trip Leader: Pete Gilmore (617-610-2477)

Sunday, Oct. 21 at 2:00 pm

NEWTON AQUEDUCTS HIKE

Join a five-mile hike through woods, meadows, and fields along the Newton sections of the Sudbury and Cochituate aqueducts. This is a steady but not fast hike. Participants should be in sufficiently good shape to keep up with the group (there are cutoffs for those who wish to shorten the hike). Meet in front of the Starbucks coffee shop near the Waban MBTA station.

Trip Leader: Henry Finch (617-964-4488)

Saturday, Oct. 27 at 9:00 am

BEDROCK GEOLOGY OF NEWTON AND ENVIRONS

The geology of the Newton area tells a fascinating story of a time about 585 million years ago when Newton was part of the great southern continent of Gondwana and not far from the south pole. The rocks record a history of great volcanic eruptions and sedimentary basin deposits (the famous puddingstone!) in areas between the volcanoes. Join us and learn a bit about how the rocks tell us their story.

This trip will not be one of the usual Conservator "walks" since we will need to carpool to different sites in and around Newton to see the different rock types. If there is time and interest, we may choose to go a bit beyond Newton to view rocks within a volcanic caldera from that time.

Meet in the parking lot at the entrance to the Hammond Pond MDC Reservation area-east, at the west end of Hammond Pond off of Hammond Pond Parkway near Rt. 9. This is behind "The Street" complex near the movie theatre (see *Newton Conservators' Walking Trail Guide*, pg. 35). We will visit rocks in the woods near here, then carpool to the other exposures. Trip will about 3 hours. If there is moderate rain or worse, the trip will be cancelled. You can call the leader the evening before if in doubt.

Trip Leader: Chris Hepburn (617-964-1137)

PHOTOS IN ORDER OF APPEARANCE: SUZETTE BARBIER, KEN MALLORY



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Canada Warbler
photo by Haynes Miller

Go Green! ...and all the other colors of the rainbow. You can view this newsletter at <http://bit.ly/2rXvnit>. To elect not to receive a paper copy of the newsletter, update your membership profile at www.newtonconservators.org