



**NEWTON
CONSERVATORS**

SUMMER ISSUE

NEWSLETTER

Preserving open space and connecting people to nature since 1961

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The Tree We Barely Noticed: A New Conservation Plan for Cold Spring Park

By Alan Noguee, *President of the Friends of Cold Spring Park and a director at Newton Conservators*

The opening days of summer in Cold Spring Park are heralded by the intoxicating aroma of common milkweed — vital food for monarch caterpillars — blooming in a small meadow. Bumblebees and butterflies, and less familiar red-headed bush crickets, marmalade hoverflies, jagged ambush bugs, and many more call it home. More than a decade of volunteer work by Newton Conservators and Friends of Cold Spring Park, clearing invasive trees of heaven, has allowed milkweed and other native species to recover and spread.



PHOTO: KEN MALLORY

Bumblebee on milkweed



Map of Cold Spring Park
courtesy of Newton Conservators' new trail guide
<https://newtonconservators.org/new-edition-of-conservators-trail-guide/>

Conservation works!

The marsh by the park entry bridge tells another success story. Once choked with knotweed, it now hosts goldenrod, cattails, cursed crowfoot — a species of conservation concern — young cottonwood trees, and silky dogwoods, the latter planted by

the Department of Public Works.

But there is so much left to do. Like every Newton green space, Cold Spring Park harbors a host of invasive plants. To help focus restoration efforts, Dr. Jon Regosin

— a Newton Conservators' director and former Deputy Director of Mass. Fish & Wildlife — volunteered to lead a comprehensive Natural Resource and



PHOTO: ALEXANDER GUMEN

Red-headed bush cricket

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PHOTO: ALEXANDER GUMEN

Jagged ambush bug

Biodiversity Conservation Plan for the Friends of Cold Spring Park and the Department of Parks & Recreation. We retained a part-time consultant, Zach Shein, who has worked at the Arnold Arboretum and Parterre Garden Services, to assist.

Their draft report came with a shocker: one tree we had barely noticed now poses a grave threat to the park's entire ecosystem.

Meet the Amur cork tree. Fast-growing and relentless, it:



PHOTO: KEN MALLORY

Amur cork tree in Cold Spring Park

- Thrives in wet and dry soil and in sun and shade.
- Sprouts new trees from long, sprawling roots; the largest colony in the heart of the wetland has over 200 stems!
- Produces up to half a million berries — junk food that birds spread but cannot live on.
- Emits berberine, a natural herbicide that kills understory plants.
- Could go from less than a few percent of the canopy today to one-third or more in only a few decades.

Our native red maple forest canopy — already stressed by invasive buckthorn — could become a virtual monoculture of cork trees. Eight years ago, this newsletter, in an article by Eric Olson, asked “Cold Spring Park Red Maple Swamp — Can It Endure?” The Amur cork tree wasn't even mentioned. Now, descendants of four trees planted in the cemetery across Beacon Street have colonized the



PHOTO: KEN MALLORY

Japanese knotweed

wetland, spread into our upland oak forest, and appeared in neighbors' yards.

Invasive plants aren't inherently bad. In their native ecosystems, they

Invasive Alert: The Amur Cork Tree Threat to Newton's Ecosystems

Forest & Soil Disruption

Chemical Warfare in the Soil
The tree releases allelopathic chemicals like berberine that inhibit native plant growth and alter soil microorganisms.

Native Tree Suppression
Aggressive, fast-growing root suckers and seeds of Amur cork tree crowding out native oak, maple, and hickory.

Allelopathic chemicals inhibit native growth and soil health.
berberine

Brook & Aquatic Impact

"Rewiring" the Seasonal Calendar
Early leaf-out shades brooks too soon, while sudden, synchronous fall leaf-drops cause a "boom and bust" nutrient cycle.

Toxic Leaf Litter
Submerged fallen Amur cork tree leaves often release secondary metabolites

Altered Stream Temperatures
Alter a rise in water temperature due to reduced canopy cover.

A "Nutritional Sink" for Wildlife
Amur cork tree berries are visually unappealing and have a high-sugar, low-fat content nutritional profile.

High-sugar, Low-fat

Scale of the Invasion in Cold Spring Park (CSP) — 2024 Data

Metric	Red Maple Swamp (CSP)
Total Identified Stems: -800	
Largest Single Colony: 201 Stems	
Invasive Density Rank: Tier 4	Tier 4 (Highly Invasive)

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fill useful niches and are kept in check by other species they evolved with. Knotweed colonizes lava flows on Mount Fuji; the Amur cork tree is revered in Asia for its medicinal properties. But here, they crowd out the native plants our wildlife has evolved with and depends on.

No one likes removing trees, but the cork tree spread is at a tipping point. Most are still small, and even the mature ones can come down without opening large canopy gaps.

The Conservation Commission has approved a cork tree removal plan filed by Parks & Recreation Commissioner Marc Welch, Newton Conservators, and Friends of Cold Spring Park. We have begun removing small trees, and the Friends and Conservators have committed at least \$25,000

to hire the city's forestry contractor to remove larger ones near the Cold Spring Loop. Cutting alone triggers resprouting, so licensed applicators are dabbing small amounts of herbicide on stumps. We will plant new trees in the largest gaps.

We applied for but ultimately did not win a state biodiversity grant to help fund this work. There were 200-plus applicants for this new state grant program, and only a dozen received an award. So, more fundraising lies ahead.

The management plan goes far beyond cork trees. It sets five goals with 28 action recommendations:

- Protect forest health: establish invasive plant exclusion zones in the park's healthiest sections and monitor forest health plots.
- Expand pollinator habitat: grow the meadow, reduce mowing, and plant native wildflowers at field edges.
- Restore brook and wetland sites: partner with the Stormwater Division and Native Fish Coalition to improve habitat for our newly discovered native fish.
- Make the park a learning showcase: add native habitat demonstration areas, partner with Zervas School, and expand wildlife inventories.
- Maintain trails proactively: create a long-term plan and minimize off-trail use in sensitive areas.

We'd like your feedback about our plan and goals. Read the full draft and submit feedback at coldspringpark.org.

Some recommendations may not be universally popular. Certain paths cut through the park's few intact native plant communities. One is home to 7 nut-bearing species, 14 berry producers, and at least 20 pollen and nectar plants. It is the only spot where keystone oaks still dominate, and young oaks are taking hold. We hope to close some woodland and wetland paths to allow the areas to recover and to restore their native plant communities.

Making Cold Spring Park a model is an important goal. All Newton parks need more stewardship to help meet Massachusetts' goal of reversing species decline. The stakes are stark: species are disappearing at ten to one hundred times historical rates, and scientists forecast the loss of more than one million species — one quarter of all life on Earth — if trends continue over the coming decades.

More than 450 plant and animal species are on Massachusetts' endangered list, and many more are declining. Last year, the Commonwealth adopted a state-leading

Biodiversity Action Plan. Newton must now do the same.



The Massachusetts Biodiversity plan can be viewed at: <https://www.mass.gov/info-details/biodiversity-goals-for-massachusetts>

Our green spaces also anchor climate mitigation and resilience. In other cities, for example, parks covering just 25% of the tree canopy store 67% of the carbon. Healthy natural areas absorb more stormwater too, and help ecosystems bounce back from pests, disease, and extreme weather.

Nature is also good medicine. Access to natural areas is linked to less depression, longer lives, healthier babies, and other health benefits.

Newton's revised climate plan calls for forest protection and a new biodiversity working group to secure these benefits. Our city should lead on biodiversity as we have on clean



Volunteer removes invasive tree-of-heaven (*Ailanthus altissima*)

energy. Both are interlinked but independent crises. We are optimistic our administration and city council will deliver.

You can help by removing invasives, planting natives, and volunteering to help steward our parks and conservation lands. Conservation works! As Grow Native Massachusetts says, "Every garden counts, every landscape matters."

The Cold Spring Park Natural Resource and Biodiversity Conservation Plan, prepared by Zach Shein and Dr. Jon Regosin, is available at coldspringpark.org. ♦