

# THE ACORN

THE NEWSLETTER OF THE EARTH SANGHA

NOVEMBER 2021

## A NEW INFORMATION RESOURCE

*The Sangha is always looking for ways to share what we are learning about the flora of the DC area, so we want to make sure that all of our members and colleagues know about a new resource that Matt Bright, our Conservation Manager, has recently released online. You can find his Native Plant Compendium at [earthsangha.org](http://earthsangha.org). An excerpt:*

To better refine plant selection, we're pleased to introduce our new Native Plant Compendium – an online resource that lists all the species we have in propagation at our Wild Plant and where best to plant them. For the purposes of this Compendium, that means connecting plants with their habitats in ways that mirror natural and successional plant communities. Gardeners should see this as an extension of “right plant, right place” thinking – that the sort of assemblages of plant species that arise together in nature likely yield the greatest ecological value and that, with some care, we can choose to replant and restore areas in ways that approximate these plant communities.

This is not to say that there is no room for design or aesthetics! Especially in highly visible areas, we believe that an attractive space will garner support (maybe your neighbors will want to use natives too) and stick around longer (maybe the next owner of your home keeps the garden intact). That said, we want to provide as much guidance on how our native flora arrange themselves in the wild, so when gardeners feel the need to deviate from these natural arrangements, they can do so with purpose and understanding.

*Continued on the back page . . .*

## THE BEST IT HAS EVER BEEN

Our DC-area Wild Plant Nursery is in great shape and almost every month brings additional progress. Improvements to note: The passive-solar greenhouse construction is coming along. We now have an “Administrative shed,” as well as ergonomic potting benches. Our general purpose container mix is performing well, and we've found ways to modify it where needed (especially for acid-loving species). We've created a few display beds to show off some of the plants. Our labeling has greatly improved over the casual norm of years past. Our inventory is available online and is as close to “real time” as we're probably ever going to get. It's revised once a week during the growing season. Curb-side pickup is booming and thanks to our pot drop-off bins, we're able to reuse about 60% of returned containers. At our office, a horticultural-label printer churns out those labels. Another special printer produces multi-copy invoices. And, of course, our seed collection is going full bore. (See inside for some details.)

How did we get so close to professional? We credit both the nursery's patrons, and our field crew — all of the volunteers, interns, and staff who work out there. Learn more about the nursery at [earthsangha.org](http://earthsangha.org), and pay us a visit sometime soon!

**Photos:** Above, at our Wild Plant Nursery, Lenny Bankester used his formidable carpentry skills to attach Solexx panels to a greenhouse frame in October. Below, in September, an easing epidemic allowed students from the Stone Ridge School of the Sacred Heart, in Bethesda, to return to the nursery. Hundreds of plants benefited from this visit!







## WHY WE SHOULDN'T GIVE UP ON OUR ASH TREES or anything else

We're big proponents of propagating common native species and restoring them back to their habitat. Research on ecological interactions between animal wildlife and their host plants supports this approach, whether we're looking at goldenrods (*Solidago* spp.) and a wide variety of insect pollinators, or oaks (*Quercus* spp.) and all the butterflies and moths that, in their larval phase, feed on those trees. We're also proud to grow a few local and state rare species, at the request and under the guidance of ecologists and park managers, for specific conservation goals. But what about species that were formerly common but that are now far less so — and that are in active decline?

Ashes (*Fraxinus* spp.) fall into that middle ground, driven into decline by the emerald ash borer (EAB), an invasive insect from northeast Asia that probably arrived in North America in the early 2000s. EAB lays its eggs on ash bark; its larvae hatch out and chew long galleries through the wood of their host tree, before emerging as adults to begin the cycle anew. American ashes generally die from this damage, while Asian ash species tend to be resistant. While it may appear that our ash trees are in a hopeless position and that mass culling is the only viable strategy, we believe that these once-common species are still important to grow. Here are three important reasons why.

First, a genetic issue. By keeping local ash populations available for restoration, we can help maintain their local genotypes, so any resistance that arises within those genotypes will already be embedded in a genetic makeup that is well adapted to our region. That should promote the spread of any resistant trees. Something similar (but without direct restoration) may be happening with the eastern flowering dogwood (*Cornus florida*), an understory tree that has been battered by the introduced fungal disease, dogwood anthracnose. Research has found that dogwood populations long exposed to the fungus still maintain genetic diversity similar to populations that have not yet suffered from the disease. These findings suggest that diffuse remnant populations of dogwoods remain well-connected genetically despite suffering large population losses. That is, even though our remnant stands of dogwoods may be scattered along various woodland edges, they are still being pollinated and support a diverse genetic base — a base that may support future resistance to the anthracnose. Perhaps the same is true of our ashes.

My second reason is ecological. We continue to see ash (mostly green ash, *F. pennsylvanica*) persisting in floodplain forests as an understory tree, even as mature canopy trees succumb to the borer. These younger trees are often the parent trees that we

depend on for seed. Their presence means that it's likely that insects and other fauna that depend on ash trees may still be present in these forests, albeit at lower numbers, as total ash biomass declines. Propagation may help protect this ash-dependent fauna.

My third reason is a matter of practical conservation: the ash currently in our nursery is earmarked for the Fairfax County Department of Public Works and Environmental Services, for a biocontrol project. The USDA has approved the release of certain Asian parasitoid insects that prey exclusively on EAB in Asia; they are part of its natural parasite burden. The plan is to replant appropriate habitat with local-ecotype ashes. Eventually, the replanted areas should draw in EAB, which could then be exposed to the parasitoids. If the parasitoid populations persist, the EAB populations should decline, although not all the way to zero. Let's hope that this biocontrol will help protect the genetic diversity of our ash trees, and stabilize their presence in our landscapes.

— Matt Bright, Conservation Manager





## A SEED LETTER FROM LISA

Of all the activities that the Sangha performs, seed gathering is my absolute favorite. It's not so much the act of obtaining the seeds — it's the whole process of searching and finding the right species in its rightful, healthy habitat. That's the source of my excitement. In a densely-populated region like Northern Virginia, it's getting increasingly tough to find natural habitat that is relatively undisturbed. I used to visit those left-over woodlands wedged in between newly-built neighborhoods where I was able to find a surprisingly diverse group of native plants. Over time these areas have become either trashed or, let's say, "beautified" with ornamental horticultural plants. I'm now going farther out towards the western edges of Fairfax County to look for wild plants.

After twenty years, there aren't too many wild areas — or residual wild areas — in Northern Virginia that I haven't explored, but from time to time, I still find some remaining forest that is unfamiliar. Like this year, one of our good friends led me to a sizable forest, a healthy one at that, tucked away from the main streets. It had somehow escaped my notice. From May this year, I visited it more than half a dozen times to meet all the native plants residing there, until the botanical map of this forest was reasonably sketched in my mind. This kind of treat is thrilling but rare.

But even for very familiar sites, where I know almost every stem of the native woody plants growing there, and every cluster of forbs and sedges and grasses is as familiar as the contents of my living room, my heart still beats fast when I greet them. For one thing, the membership of resident plants in any given site is not static. Its composition subtly changes from season to season and year to year. I also feel grateful to them for staying alive and well, even though we treat them badly by ignoring their needs and degrading their habitats. In some areas, where big machines have scraped off soil along with the roots of woody plants, I witnessed how the native plants reclaim their habitat. I watched grasses and forbs struggling to regain footage on this naked and dusty strip of bare dirt. It often takes a couple of years for even tiny mosses and lichens to appear and slowly expand, thereby keeping moisture in the ground. The next year, I see small but hardy species like poverty oatgrass (*Danthonia spicata*) and toothed whitetop aster (*Sericocarpus asteroides*) lodging themselves in between mosses and lichens. I marvel and cheer at their tenacious work.

But not every loss or disturbance is reversible. I ache when I see some beautiful group of mountain laurel (*Kalmia latifolia*), upland blueberry (*Vaccinium pallidum*) and deerberry (*Vaccinium stamineum*) that has either been poisoned or hacked to death by well-meaning but ignorant contract workers to protect power lines or trails. These ericaceous plants are special in that it took a very long time to form

**Photos:** Above left, containerized green ash seedlings at our Wild Plant Nursery in Springfield, Virginia, in October. Above right, also in October, Lisa collects the seed of broomsedge (*Andropogon virginicus*), a common "canopy grass" in local meadow. At left, a cassava patch in our Tree Bank project area in September. This field will eventually host a native tree canopy underplanted with coffee or cocoa. (See the update opposite.) The native tree seedlings are being planted here. Cassava is a cheap, starchy root crop. The harvest in this field might fetch maybe five dollars. Seriously. In a decade or so, native forest coffee or cocoa would likely net many times that. Part of the Tree Bank's work is to make such conversions possible.



their habitats. They are special because they prefer acidic and nutrient-poor soil and they form strong symbiotic relationships with mycorrhizal fungi underground. Once these plants are dead and gone, the fungi disappear as well, and the soil's vitality declines. We tend to ignore or refuse to acknowledge what we can't see, no matter how important it might be. We see the tall oaks and hickories, but these trees alone do not make a forest. They need all the other forest creatures — the mycorrhizal fungi underground, insects, everything.

And it's that whole forest that allows the seeds to form. That's why I marvel every time I collect seed and become grateful for the sustenance that this act has given me.

— Lisa Bright, Executive Director

## TREE BANK UPDATE: COFFEE & COCOA

For the first time since our Tree Bank Hispaniola program was founded, in 2006, we have attempted to quantify the amount of land that our partner-farmers have planted in "C&C" — cocoa and coffee. (The Tree Bank works along a section of the Dominican Republic / Haiti border to improve small-holder incomes and conserve native forest.) C&C are high-value shade-tolerant tree crops. They allow farmers to profit from their forest without cutting it down. (We only plant C&C in degraded forest. Higher-value canopy is eligible for our Forest Credit loan program.) What we found: at least 26 families have planted a total of 41 acres of coffee and another 30 acres of cocoa. (The count is still missing some informal and new plantings.) Most of our C&C was planted after the 2014-2015 leaf-blight killed virtually all of the island's coffee trees. Our little trees are just beginning to bear. We hope that the resulting profit will draw more families into the program, and allow us to begin importing at least some of the harvest.

## GUA-GUA FUNDING: ¡MUCHAS GRACIAS!

Many thanks to everyone who contributed to the pickup truck appeal for our Tree Bank Hispaniola program. (The Tree Bank works along a section of the Dominican Republic / Haiti border to improve small-holder farm incomes and conserve native forest.) Our current gua-gua is 23 years old and breaks down at least once a month. That's not a joke. We need a more reliable pickup so that we can continue bringing materials into our Tree Bank Nursery, and taking thousands of little trees out of the nursery, to planting projects on our partner-farmers' land.

The appeal went well. Two very generous donors started us off with a giant gift of \$10,000. A few other high-end donors contributed as well — and then there was an avalanche of smaller donations. Our goal was to reach \$35,000; we actually raised over \$46,000. As it turns out, we'll likely need most of that extra funding to counter a ferocious bout of inflation in the Dominican Republic and, probably, supply-chain complications. The purchase will be more expensive than we had hoped, but we'll get it done. Stay tuned!

## COMPENDIUM

*Continued from page 1*

Our guidance will begin in the broadest possible way as we look at some easy-to-grow, high-value generalist species that can be incorporated into nearly any landscape. From there we will look at four examples of natural plant communities (with more to come!) that represent a range of natural forests in our region, and finally we will wrap up with a full plant list that also includes our own brief notes on habitat and growing conditions.

The advice in this Compendium is based both on our first-hand experience and research from publicly available sources. Our experience is culled from over 20 years as Northern Virginia's largest grower of local-ecotype native plants, distributing hundreds of thousands of plants across 300+ species to restoration projects across the region and working closely with ecologists across multiple agencies. We don't just grow the plants; we also observe closely their habitats and what they grow with as we collect seed (sustainably and with permission) and monitor their habitats.

*There is a source list here.*

Of course, there's no replacement for assessing a site in person! For restoration sites, we are always happy to do site visits, but our small staff and busy schedule make it difficult for us to meet the demand for visits to private property. Luckily, Audubon at Home ([www.audubonva.org/audubon-at-home](http://www.audubonva.org/audubon-at-home)) operates a Wildlife Sanctuary certification program for homeowners, HOAs, schools, places of worship, commercial properties, and other garden spaces. You can request a visit by AAH Ambassadors — many of whom are experienced Master Naturalists or Master Gardeners — at the link above to give you recommendations about plant selection and how to manage your garden for native flora and fauna and how to achieve Wildlife Sanctuary certification. Once you have completed a site visit and have an initial plant list in hand, you can refine the list through our Compendium or a visit to our Wild Plant Nursery.

... We are committed to keeping the Compendium online as a living document so we can update it to include new species, keep the taxonomy current, and include more plant communities and selection advice as we expand it.

*Check out the full Compendium! You'll find it at [earthsangha.org](http://earthsangha.org): top menu: Wild Plant Nursery: Compendium.*



**Photo:** Our poor old gua-gua! Its most recent complaint was a broken fan belt, but before that, in October, part of its suspension broke. That's what Tingua is fixing here. Tingua is a mechanic for the Dominican Army but he takes care of our little gua-gua as well. Over the past year or so, he has gotten to know our crew, and the gua-gua, quite well.

# EARTH SANGHA

## CONSERVATION IN PRACTICE

The Earth Sangha is a nonprofit 501(c)(3) charity based in the Washington, DC, area and devoted to ecological restoration. We work in the spirit of Buddhist practice, but our members and volunteers come from a wide variety of religious and secular backgrounds.

Want to contact us or make a donation? You can support our work by becoming a member. Membership starts at \$35 per year. Donations are tax-deductible. You can mail us a check (made out to "Earth Sangha") or donate on our website. We will send you a receipt and include you in our mailings. (If your name and address are correct on your check, there is no need to send us anything else.) To donate specifically to our DC-Area programs, write "DC- Area" on the check memo line; to donate specifically to the Tree Bank, write "Tree Bank" on the memo line. [earthsangha.org](mailto:Contact us at: Earth Sangha, 5101 I Backlick Road, Annandale, VA 22003 | (703) 333-3022 | <a href=). Complete program information is available on our website. Want to volunteer with us? We work with volunteers at our Wild Plant Nursery and our field sites in northern Virginia. For more information see our website or call Matt Bright at (703) 333-3022.

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