



Sheridan Community Land Trust invasive grass interns Matt Springsteen and Connor Land survey pasture near the Wyoming-Montana border to search for two species of invasive grasses, medusahead and ventenata, a local rancher believes have taken root. While on site, the pair will map any patches they identify and the local weed and pest control district will work with the rancher to control the invasive grasses.

CHRIS VRBA



Northwest Youth Corp crew members building the Oregon Coast Trail extension through the Lower Nehalem Community Trust's Headwaters property toured the Nehalem Teaching Trail to learn about native plants and their significance to the First Peoples.

LOWER NEHALEM COMMUNITY TRUST

Seeds of Change:

Supporting Native Plant Communities

By Marina Schauffler

According to the International Union for Conservation of Nature, climate change can compound the impacts of invasive species. Extreme weather, such as hurricanes, floods, droughts and wildfires can bring invasive species to new areas and decrease the resistance of habitats to invasions. And many invasive species “have the ability to expand rapidly to higher latitudes and altitudes as the climate warms, out-pacing native species.” (www.iucn.org)

Land trusts around the country are finding ways to support the native plant species that are keystones of healthy ecosystems by battling invasives and managing for natives. It’s an effort that takes botanical knowledge, innovation, vigilance, persistence and, often, sheer physical exertion.

Eating Your Invasives

Mary Verel, who coordinates stewardship for the all-volunteer Norwalk Land Trust (NLT) in Connecticut, has found that work to control invasive plants yields not just ecological benefits but personal rewards.

The first lesson came when she worked as a guidance counselor, a position she loved but found stressful. On Friday afternoons she would leave work and head to one of the land trust’s coastal preserves. On its shores a huge stand of invasive *Phragmites* had taken hold: “I bought a machete and would slay *Phragmites*,” she recalls. “It was very therapeutic.”

Native groundsel emerged in the openings cleared by Verel and other NLT volunteers, she says, and “in two years it

took over and successfully crowded out the *Phragmites*.” Verel’s training as a University of Connecticut Master Gardener volunteer and her practical experience have shaped her philosophy toward invasive plants: “You can’t stop everything, but you can control it.”

After NLT cuts back invasive plants, Verel looks to aggressive native species to help fill the vacuum: “Let ’em duke it out.” She’s had good luck getting elderberry to overtake Japanese knotweed and native fringed yellow loosestrife to outcompete cut-back mugwort.

NLT is also experimenting with culinary and medicinal harvests from troublesome species. Last year Verel concocted a “pretty tasty” jam from autumn olive that land trust colleagues considered good enough to consider marketing in the future.

To stay out ahead of new infestations, Verel believes land trust staff or board members need adequate botanical training. Only after learning about the pernicious mile-a-minute vine (*Asiatic tearthumb*) at a workshop was she able to recognize and eradicate the plant when it first appeared on one of NLT’s preserves.

Mapping Outbreaks

To supplement in-house botanical expertise, some land trusts hire on help. Sheridan Community Land Trust (SCLT) in northern Wyoming joined forces last summer with the local weed and pest control district to employ two interns who could scout and map two species of invasive grass and educate landowners about them.

What some consider the greatest invasive plant threat to Wyoming, *medusahead*

and *ventenata* have almost “negative forage value” due to a high silicon content, and raise the risk of fire frequency due to thick thatch and shallow roots, explains Chris Vrba, SCLT’s director of marketing and development. Unfortunately, he says, “there’s not a scenario where total eradication is going to occur.”

For a land trust that works with families to help make the next generation of ranching possible, the district partnership was a natural extension, Vrba says, as “getting containment” of these species will simultaneously benefit native ecosystems and the agricultural community.

The interns reached out to landowners in several communities, setting up an informational booth outside post offices, farm supply stores, groceries and at a monthly street festival. They followed up with more in-depth education about invasive grasses on site visits to ranchers and farmers who invited them.

In addition to forging closer ties with landowners, the interns identified “a patch [of the invasive grass] 30 miles from where it was known to occur,” Vrba says, “making the entire project worthwhile.” Now, as part of the North East Wyoming Invasive Grasses Working Group, SCLT is considering hiring a field specialist who could help landowners identify and eradicate invasive grasses.

Reforestation with Natives

Containing damage from invasives is especially hard when those species have wings. In a 3-acre preserve owned by Pennypack Ecological Restoration Trust (PERT) in Pennsylvania, nearly 1,000 trees succumbed



KRISTEN HANRATTY

The Chew Crew in action on TennGreen Land Conservancy's property.

Targeted Grazing

Some land trusts are experimenting with “targeted grazing” in their efforts to battle invasive plants. Sheep and goats have long been used to eat invasives, but Kathy Voth’s 2004 book, *Cows Eat Weeds* describes how cattle can be trained to eat invasives, too. When cattle ranchers told Voth that using goats or sheep wasn’t economically viable for them, she used discoveries made by researchers at Utah State University and decades of animal behavior studies to put together a set of steps for teaching cows to eat weeds. (www.livestockforlandscapes.com)

to an infestation of the Asian emerald ash borer. Now the land trust is preparing to replant that site with 750 trees and shrubs, representing 32 native species to “maximize food and shelter for native insects and birds, while fitting in with the topography, soil conditions and dominant tree species of the surrounding landscape,” notes Chris Mendel, PERT’s executive director.

The Pennsylvania Horticultural Society, the county conservation district and the National Fish and Wildlife Foundation are lending support to this ambitious effort, with the land trust providing match through labor and equipment. To help extend its staff capacity, PERT is training a corps of volunteer “ReForesters” to help with the

initial planting and the ongoing care of new trees. “If we can get people to fall in love with a particular site, they will bond with it and treat it as their own,” Mendel says.

PERT already has a volunteer Streamkeepers program and organizes Free-a-Tree workdays in which volunteers cut down invasive plants. Given that many people feel increased anxiety over the climate crisis, volunteers welcome the chance to “put that anxiety into action,” Mendel observes. The opportunity to put love and attention into a place by restoring native plants is “therapeutic for them in a real and tangible way.”

While this particular reforestation effort required a bare-earth approach, Mendel

says, PERT is also surveying its holdings to identify the “areas of core biological value—those that are least invaded—and focus our attention there.” Careful monitoring and rapid action to eradicate problematic arrivals can help keep those intact habitats from requiring major remediation.

Employing the Chew Crew

To care for its Belle Forest Cave Arboretum property in Nashville, the accredited TennGreen Land Conservancy relies on volunteers and on contractors, most of the latter being hoofed. Once or twice a year, a young landscape architect turned shepherd brings his herd—the Nashville Chew Crew—to the site to help clean up Chinese privet, Japanese honeysuckle and tree of heaven.

On the arboretum’s steep slopes, which are ill-suited to herbicides or heavy machinery, the sheep do a remarkably efficient job, says the conservancy’s associate director, Alice Hudson Pell. It’s an easy and affordable means of stewardship because the Chew Crew eagerly consumes problematic plants that would be taxing for humans to control. What would be back-breaking and difficult work for volunteers is chow time for the Chew Crew.

The sheep convert invasive plants to beneficial fertilizer, leaving the site better than they found it. They have helped increase open space and allowed for the return or replanting of roughly 40 native tree species. (Desired trees are fenced off from the sheep.) The conservancy’s aim is to “manage the property passively,” Pell says, and the herd of grazing sheep is helping advance that bucolic vision.

Shaping a Community-Owned Forest

The Lower Nehalem Community Trust (LNCT) in Oregon is in the midst of planting more than 1,000 hemlock, spruce and cedar on its 111-acre Headwaters preserve, 30 acres of which had been selectively logged before its 2018 acquisition.

After starting to cut the forest, the previous owner concluded it was “more trouble than it’s worth,” recalls LNCT founding board member Doug Firstbrook. That

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corporate owner offered LNCT a conservation easement, but with just three part-time staff, the trust concluded that would be too costly to enforce. “You should just give us the land and some cash,” Firstbrook recalls saying, and that is what the owner did.

“The notion of a community-owned forest captured people’s imaginations,” Firstbrook says, and LNCT has had a good turnout at tree-planting work parties. But with heavy, 2- to 3-foot conifers, the process is labor-intensive (and prickly).

The trees come from a cooperatively owned native plant nursery, the Northwest Oregon Restoration Partnership’s (NORP). LNCT members volunteer time there and in return the trust gets access to affordable, locally sourced trees that represent “quite an improvement in the plant stock,” Firstbrook says, well-suited to flourish in the region’s distinctive climate. NORP provides stock to more than 30 other regional organizations engaged in restoration work.

Managing a Native Nursery

Farther up the West Coast, another land trust also faced challenges getting suitable local plant stock that was acclimated—in this case—to the rain-shadow climate of the San Juan Islands (where mountains block moisture, making for warmer, drier conditions). Islands face an added risk of “genetic swamping,” inadvertent hybridization with plant types from other settings. “Keeping your plant material true to its natural heritage is the best course possible,” says Kathleen Foley Lewis, stewardship manager for the accredited San Juan Preservation Trust (SJPT).

To address that challenge, the San Juan County Land Bank, a public entity funded by a real estate transfer tax, began propagating its own stock, but it soon ran out of room. Since SJPT frequently collaborates with the land bank, it offered space at one of its preserves for the expanding native nursery, known as the “Salish Seeds Project.”

By joining forces, the two organizations can mobilize more volunteers to help with seed-saving activities like threshing and

winning. The collaboration, reaffirmed annually with a memorandum of understanding, has generated affordable, well-acclimated plugs that SJPT can use in habitat restoration work on its preserves. The nursery even grows plants critical to particular species, like those vital to the rare endemic island marble butterfly.

Plants not used by nonprofit or government entities in restoration work are offered to area residents in an annual native plant sale. The nursery also offers blended seed packets that encourage local landowners to help foster the islands’ native plant heritage in their own yards.

Learning through Growing

The accredited Southwest Michigan Land Conservancy (SWMLC) has worked for nearly two decades to remove invasive plants but discovered that some settings “might not have the native plant material in the seed bank to heal themselves,” notes Stewardship Director Mitch Lettow.

Drawing inspiration from the all-volunteer North Branch Restoration Project in Chicago, which Lettow says has a “really elaborate and well-organized” approach to seed collection, cleaning, screening and labeling, SWMLC organized a crew of volunteers that call themselves the “Pluggers,” referring both to seedling plugs and their tendency to keep plugging away. Gathering tubs of native plant seeds from preserves, they clean, process and carefully store those seeds to help boost the biodiversity of languishing sites.

The seed work is “helping us learn more about our preserves,” Lettow says, as staff and volunteers must attend carefully to when plants go to seed and where a given species is abundant enough to allow for seed collection. One volunteer was so fixated on seed gathering that he barely noticed the plants in their peak bloom, telling Lettow “I start to recognize plants when they turn brown.”

Some of the volunteer Pluggers at SWMLC are also part of “Wednesday Warriors,” a close-knit group of volunteers that engages in extensive control of invasive



Volunteers prepare to plant plugs of native grasses and wildflowers produced at the Salish Seeds nursery at a San Juan County-San Juan Preservation Trust joint restoration project on Turtleback Mountain Preserve, Orcas Island, WA.

plants, mostly using traditional “whack and stack” approaches. There are volunteers who find the ongoing control of invasive species “kind of depressing,” Lettow acknowledges, and for them, seed propagation “offers something different—something with a more optimistic feel.” SWMLC is reaching new volunteers through its propagation work, he believes, because in “a handful of seed, there’s so much promise.”

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Resources

NatureServe, a public-private partnership that comprises a network of more than 90 natural heritage programs throughout the Western Hemisphere, has tools that can help land trusts, such as:

Map of Biodiversity Importance: <http://natureserve.org/conservation-tools/projects/map-biodiversity-importance>

NatureServe Explorer: <http://explorer.natureserve.org>

iMapInvasives: www.imapinvasives.org