Volunteers remove black swallow-wort from Bluff Point State Park in Groton in July. Photos: Annie Sherman

Invasives removal: an essential step in restoration

How stewards of two CT parks are improving the landscapes for pollinators and other wildlife

By Annie Sherman

The fibrous roots of black swallow-wort plunge almost two feet deep along the rocky exposed headland of Groton's Bluff Point State Park. The invasive vine pops up in clumps among native plants, looking innocent and appetizing to monarch butterflies and other pollinators who confuse it with their favorite egg-laying target, milkweed.

The southwestern European vine is an unwelcome invader here and in other locations along the coast, so biologists with University of Connecticut (UConn), CT Sea Grant, the CT National Estuarine Research Reserve (NERR), and the CT Department of Energy and Environmental Protection (DEEP) are making a concerted effort to eradicate it from the beloved state park.

Scraping away the stones and gravel to expose and remove the extensive root systems, more than 30 volunteers and plant experts gathered in July to put manpower to work for the planet.

Nearby at Ocean Beach Park's Alewife Cove in New London, experts have targeted two other invasive plants from this tidal estuary: phragmites and mugwort, both from Eurasia. Phragmites, a common reed that flourishes in wetlands and coastal areas, and mugwort, an aggressive invasive perennial found widely in sandy soils, threaten to dominate native species. So these teams of educators and biologists are fighting back.

Invasive plants, according to the Connecticut Invasive Plant Working Group at UConn, are plants native to other parts of the world that have been transplanted, either deliberately or accidentally, to a new area where they have no natural controls on their rapid spread.

"They are disruptive in a way that causes environmental or economic harm, or harm to human health," according to the group's website (https://cipwg.uconn.edu/).

Jane Seymour, DEEP wildlife biologist, further explained their impact.

"The problem with these non-native invasive plants is they have found a way to spread rapidly. So they outcompete our native plants," she said, pointing to another swallow-wort vine among the rocks while explaining the cascading tragedies. "If you have an area that has, say, 100 different

species of native plants, and then this one non-native invasive takes over, then the area has lost 99% of its plant diversity. When you remove those native plants, the insects don't have anything to eat. And then the birds and other animals that feed on the insects don't have anything to eat."

This abundant wildlife makes its home at two of the most popular parks in the state. But Bluff Point and the Alewife Cove section of Ocean Beach Park are also magnets for beachgoers, walkers, birdwatchers and families who recreate and enjoy the trails year-round. Experts emphasize that the importance of eliminating these invasive plants is a critical component of their larger restoration projects to safeguard these coastal areas' long-term ecology and recreational access.

"One of the really hard things with invasive removal is to get the bad guys out. They will come right back unless you plant the new openings with natives," said Juliana Barrett, extension educator emerita at CT Sea Grant. "This was a pretty extensive infestation of black swallow-wort."

Indeed, identifying the swallow-wort, phragmites and mugwort was the first in a series of steps to remove the invasive plants and possibly treat the area to prevent further spread, said Jason Krumholz, UConn research professor and NERR stewardship coordinator.

The effort at Bluff Point started three years ago, he said. It began with mapping the invasives, creating an inventory of where they grow and writing an action plan for their extermination. They zeroed in on Bluff Point, because swallow-wort was just starting to get a foothold there. The team could make an impact and keep it from proliferating. In comparison, Oriental bittersweet is wildly out-of-control there, he said, so trying to eradicate it would be futile.

"This does really matter, and it matters disproportionately for the ecology because of the butterflies," Krumholz said. "I'm super happy that we removed 150 pounds of invasive plants."

While that doesn't eliminate every invasive plant in the state park, he admitted, it does represent a significant reduction in the black swallow-wort invasion. Seymour explained that even removing this amount is good news for monarch butterflies that specifically depend on milkweed to lay their eggs and provide leaves for their caterpillars to feed on when they hatch. Alternately, if butterflies lay their eggs on black swallow-wort, a plant related to milkweed but toxic to monarch caterpillars, the caterpillars die soon after they hatch.

At Alewife Cove, teams considered these cascading consequences while cutting down phragmites, a familiar yet invasive coastal plant. CT Sea Grant Assistant Extension Educator Owen Placido explained that they schedule regular mowing to maintain the phragmites population, including one this fall. This is followed by a targeted application of herbicide by licensed professionals, which he said is the best way to prevent regrowth.

Jane Seymour of CT DEEP looks for monarch butterflies and their eggs on milkweed growing at Bluff Point State Park while helping remove invasive plants. Photo: Annie Sherman

"Once that is finished, the site is ready for us to go back in and do the fun part and seek out native plants to do the final restoration portion. They'll be native plants that are most valuable to wildlife and pollinators, that have high value but also have salt tolerance because we're in a coastal environment," Placido said.

Seaside goldenrod, American beach grasses and native coastal roses, shadbush, sweet Joe-Pye-weed, and maybe some Eastern red cedars are on the wish list, he explained, and they're targeting next spring for planting.

"This is both an opportunity for people to get connected to the coastal ecosystem but also it's a really rich environment for birds, animals, and pollinators, providing valuable food and habitat sources," he said. "We've made good progress with consistent effort of people working with their hands to free up the other side. Things are looking clear."

Long-time Save Ocean Beach volunteer and field biologist Beth Lapin said the Alewife Cove and larger Ocean Beach Park areas have some sections of high-quality native vegetation, but there are large sections that are

Volunteer Alan White, left, works with Owen Placido of CT Sea Grant removing mugwort from the Alewife Cove marsh area at Ocean Beach Park in New London in August. Photo: Judy Benson

overwhelmingly invasive. This location is personal to her, as her family has enjoyed time here for six generations, so she's devoted to pulling out mugwort plants to prevent infestations as well as tackling existing overgrowths of other species, such as barberry and honeysuckle.

"You never realize there's a plant that's invasive until you learn about it, and then you see it everywhere. You drive along and see mugwort where it is, even though you never saw it before," Lapin said. "It was just very clear to me that here was a natural resource that was being impacted, so I felt like it was my responsibility to move forward. I needed to do it. I felt compelled."

The effort is already reaping tangible benefits, she said.

"I can definitely see that the native plants are doing much better and are resurging in certain areas," she said. "I found a prickly pear the other day that I had never seen there before. I can also see some bayberry bushes are filling out where they were being impacted by non-native shrubs that we cut out. We've seen catbird nests, which are unexpected. And though it's harder to quantify, I've seen brown snakes in there, so the area is clearly being used in a way that wasn't before."

The timing of these invasive removal work parties is not coincidental. Working in the narrow window of the parent plant's growth and the budding of new fledgling plants, Seymour explained that the removal crews arrived at Bluff Point between black swallow-wort bloom and the development of seed pods. The plants put all their energy into flowering and developing seeds, and when the team pulls them out, they try to get as much of the roots as possible to prevent regrowth. While phragmites stalks don't have seed pods, they do have fluffy flower-and-seed clusters called panicles that are carried on the wind to disperse small seeds. Placido said the team arranges cuts when those bush clusters aren't too large to maximize removal and reduce regrowth potential.

An unexpectedly positive twist of the team's work in Alewife Cove, Lapin added, is that now they are monitoring for the presence of invasive spongy moths that produced caterpillars that were denuding bayberry bushes. She said that their weekly volunteer work groups from April through November, when she spent 68 hours in three months with a small cadre of additional volunteers pulling out invasive plants, are making a big impact toward keeping the area as native and natural as possible.

Having teams engaged in this work at such specific times is something these organizers do not take for granted. Krumholz emphasized the importance of community science, which he believes is important because volunteers' interest magnifies impact at a critical time in the lifecycle of the plants' growth and the parks' long-term ecological forecast. This makes a big difference in the spread of knowledge and interest while helping quell invasives over decades and even generations.

"Getting out and really seeing that, getting their hands on it. This is important. Our group saw milkweed with monarchs, and we could actually see that this is what we're protecting," Krumholz said. "It's one thing for us to go out and knock it down, and that's an important component of our mission. But it's another thing entirely for teams of volunteers to come out and work by hand, go around native species and learn about the water, learn about the ecology, and care about it."

These experts agree that none of this would be possible without grant funding and cross-organization collaboration. And while these two invasive removal projects represent a small portion of the invasives across the coastline and entire state, they hope that one small pocket will lead to another small pocket and soon become a connected swath of invasive-free spaces for native plants to allow birds, insects, and pollinators to make their home.

"We're excited to be able to have the funding to do this habitat restoration work," Placido said, "and I'm really excited to see the final results once we're able to replant, because it will add a lot of value to the local ecosystem and habitat."