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SUSTAINABILITY

Building a Bee-Friendly Campus

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Bees are considered the world's most important pollinator of food crops. In fact, it's estimated that one-third of the food we consume each day relies on pollination, mainly by bees.

Knowing that, advocates from various sectors in the Stony Brook community are working hard to help promote a safe environment for these critical agricultural workers, primarily by declining to use neonicotinoids — nicotine-based insecticides that can be harmful or fatal to bees and other insects that pollinate plants. As it turns out, the University did not use products containing neonicotinoids on campus at all during 2018.

In 2017, SUNY College of Environmental Science and Forestry in Syracuse, New York, became the first SUNY campus, and one of a few in the nation, to receive the Center for Food Safety's designation as a pollinator-friendly campus. Now Stony Brook is inching closer to that goal.

According to Jeanne Charoy, PhD student in Psychology and coordinator for the pesticides





Apis mellifera, the common honeybee

working group of the University Senate Environment Committee, there is no official policy banning the use of neonicotinoids on campus, though it has been the practice not to use them whenever possible.

She added that the working group is drafting a "bee-friendly" revision to the University's Pest Management policy so that the University Senate Environment Committee can vote on it and send a recommendation to the University Senate, who will then request a formal adoption to "not use neocotinoids and other bee-unfriendly practices" unless there is no alternative. She hopes the policy revision will be addressed in the coming months.

Kevin Tumulty, environmental services manager with the Office of Environmental Health and Safety, explained that his department works closely with the New York State Department of Environmental Conservation, the Suffolk County Health Department and current landscape contractors and has always sought to protect human health and the environment through the use of alternative means and methods to minimize the use of pesticides as part of the University Integrated Pest Management Program.

The Stony Brook campus encompasses 1,454 acres and hosts more than 25,000 students. By contrast, the aforementioned SUNY College of Environmental Science and Forestry has a total enrollment of 1,792, and the campus size totals 12 acres.

The most recent bee-friendly movement at Stony Brook began when undergraduate student Mary Bertschi '20 transferred here from Coastal Carolina University, SC in Spring 2016. Seeking to find local applications for her affiliation with the Friends of the Earth BeeAction Campaign, a movement to ban neonics from college campuses and businesses nationwide, Bertschi approached Sharon Pochron, a Sustainability Studies professor who runs the Earthworm





At Earthstock 2018, SOMAS Distinguished Professor Malcolm Bowman, left, reads certificates lauding greenskeeper Kevin Tumulty, second from left, and student Mary Bertschi, far right, for their roles in not using bee-toxic neonicotinoids in 2017 and 2018. Sustainability Studies Professor Sharon Pochron, third from left, also lent her support to the efforts.

Toxicology Lab.

"Mary wanted to give a pitch to my classes to save the bees and I let her bring the issue of neonic use to the students," recalled Pochron. "I found out that Kevin Tumulty oversaw pesticide use on campus, so I set up a meeting with him and he showed me the chemicals used at SBU. Mary had given me a list of neonics and after cross-referencing them with Kevin's list, I saw they weren't on it."

Pochron then proposed making a "bee-friendly" designation to the Earthstock Committee and to Matthew Whalen, Vice President for Strategic Initiatives. It later found its way to the University Senate Environment Committee where the pesticide working group was established.

"I knew that with more than 1,000 acres of campus land, protecting this area would create a large haven for native pollinators in the area," said Bertschi. "With a very well-respected 'green' reputation, my hope is that by adopting a bee-friendly narrative, we could be a leading example for other SUNY schools and businesses."

How do the bees find friendly habitats? Pochron said that there is no short answer to the question. But that doesn't diminish the importance of providing safe havens.



outbreeding," she said.

Bees also find sanctuary at Stony Brook in the Ashley Schiff Park Preserve, Clara's Woods and the numerous fruit trees on main campus. "As they bumble from backyard to backyard, they'll find us and set up source populations here," explained Pochron.

Stony Brook University Landscaper/Coordinator/Horticulturist Alaina Claeson began advocating for bees and pollinator/butterfly gardens more than five years ago on campus when she started tending bee hives, planting gardens and new pollinator trees. She also runs the production greenhouse on the Research and Development Campus and does all of the annual plant designs for graduation and other perennial designs and tree plantings on campus and is in the process of buying and installing a new 'crop' of pollinator-friendly trees.



Butterfly garden on the Stony Brook campus

Claeson advocates planting a three-season garden. "With plants blooming at different times the pollinators will always have something to go to," she said. Pollinator-friendly trees include maples, crape myrtle, sweet gum, black tupelo, sourwood, black locust, linden, fringe tree and franklin tree. Spring flowers include crocus, hellebore and hyacinth; summer favorites are echinacea, yarrow, sunflower, hyssop, monarda and salvia and late summer/fall are black-eyed susan, asters, joe-pye weed and goldenrod.

"Without pollinators we wouldn't have a lot of the food we have in the world today," said Claeson.





she grows strawberries, raspberries, and blueberries, and cover crops of turnips, canola, and buckwheat. While she got her start in farming with honeybees more than twenty years ago, none are found at the farm anymore. All crops are pollinated by native bees, including the gentle, easyto-raise mason bee.

Klahre is quick to point out that honeybees are an invasive species and that an overwhelming amount of evidence has proven their negative impact on the natural world. "In addition, native bees pollinate two to three times better than honeybees and the resulting fruit is heavier, more well-rounded, and higher quality," she said.

Klahre's farm is interlaced with trails of pollinator-friendly native perennials including blue giant hyssop, purple coneflower, wild quinine, sweet goldenrod, and common milkweed, and native shrubs including summersweet, beach plum and winterberry. The farm also features a large patch of managed grassland. "Seventy percent of bees live in the ground, so you have to give them a place to live," she said.



Bee rancher Laura Klahre '97 (Photo: Randee Daddona)

"A large majority of bees and other insects are malnourished in today's world. We need to plant more native trees, shrubs and flowers," she said.





"You're dealing with the same ecological principles on land as under water," she said. "Stony Brook helped me think critically and I take that information and apply it. I think it's great that Stony Brook is raising awareness about how to help pollinators."

Klahre cites bee-friendly farming for the quality of her organic products. She credits her father with giving her a piece of timeless advice that now shapes her own philosophy and drive: "He told me 'All you have in this world is your name so you had better make something good."

— Glenn Jochum



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