

APPLIED STEWARDSHIP NEWSLETTER

SUMMER 2025 / FALL 2025 ISSUE

ANGELICA ST LOUIS

From June to August 2025, **Angelica St Louis** had the opportunity to participate in field excursions in the forest. Each week, she collected fungi, and every two weeks she gathered data on the vernal pools. Over the course of ten weeks, the team discovered more than 55 fungi, collected 50 specimens, and identified them. The fungi were dried in the lab and stored for future reference. The vernal pools showed noticeable changes over time; the team tracked six vernal pools and measured their depth, length, and temperature. One of her favorite aspects of the project was capturing images, identifying fungi, learning about their uses and history, and creating maps through iNaturalist and Google Maps. These efforts resulted in a map with images that allows fellow students, the general public, and scientists to explore and learn about the biodiversity present at the Westside Nature Preserve.



DYLAN TILLMAN

During the summer of 2025, **Dylan Tillman** worked with Pollinator Pathway to study pollinator visitation at several gardens on the Western Connecticut State University (WCSU) Midtown campus. In addition to collecting field data, he helped remove invasive weeds and planted native species to improve habitat quality in one of the gardens. Through this research, the team demonstrated that pocket gardens are a valuable tool for supporting pollinator populations in urban environments. Their data revealed that sun exposure and time of day were key drivers of pollinator activity, and that survey timing and garden structure significantly influenced visitation rates. These findings helped Pollinator Pathway and the City of Danbury design more effective gardens and provided guidance on how and when to monitor pollinators to assess garden success. This project deepened his understanding of ecological fieldwork, statistical modeling, and the practical challenges of urban conservation.

EMILY KINNEY

Emily Kinney's stewardship project involved conducting an invasive species inventory for the New York Department of Environmental Conservation's Region 3 Wildlife Management Areas. She connected with Region 3's Wildlife and Land Management Departments through Deer Biologist Ernest Borchert and Forester Greg Cerne. They were enthusiastic about the project, as the department was preparing updated habitat management plans for the Wildlife Management Areas (WMAs) in the fall of 2025. Throughout the summer, she traveled to several priority WMAs that were either scheduled to undergo management practices or had already undergone management. During these visits, she assessed access points including parking areas, trailheads, trails, boat launches, and observation areas. The WMAs she surveyed included Bashakill, Mongaup Valley, Cranberry Mountain, Great Swamp, and Baxtertown Woods. Management goals for these areas—such as targeted use for hunting or conservation of particular species—helped guide how data was collected. She compiled the collected data into Excel spreadsheets, prioritized invasive species sites based on patch density and size, and created detailed Google Maps for the DEC to reference as they begin future management and removal efforts.

NASRIN SULTANA

Last Summer, **Nasrin Sultana** worked with data and technology used to monitor seasonal mixing and stratification in Ball Pond, New Fairfield, Connecticut, during the period of October 2024 to May 2025. Focus was on the water quality variables of temperature, dissolved oxygen, and specific conductivity. The project revealed distinct seasonal shifts from fall stratification to complete winter mixing under ice, then spring re-stratification, presumably each influencing oxygen distribution and nutrient cycling. Conductivity (also known as salt level) trends, which have increased over the past 40 years, suggest that winter de-icing road salts are contaminating the lake. Winter water column profiles revealed temperature density layering, with saltier surface, but thermally less dense water floating above colder denser bottom water with lower salt concentrations. Dissolved oxygen data could not be collected due to equipment failure, highlighting the need for reliable monitoring tools and good relationships with the manufacturer's technical support. Working with the Ball Pond Protective Association, I gained hands-on experience, learned teamwork, and helped share findings with local officials to guide road salt management and protect the lake's health amid changing environmental pressures.



ALTON SPENCER

Alton Spencer worked with Dr. Kelsey Fisher at the Connecticut Agricultural Experiment Station (CAES) on an insect sampling project that assessed diversity within bioswales in New Haven, CT for his stewardship project. The goal of the project was to analyze hundreds of insect samples collected from previous summers to determine the biodiversity of the New Haven bioswales, compare them with a better maintained bioswale in Hamden, CT, and identify steps to improve insect and pollinator diversity. Throughout the semester, he examined nearly 1,700 pinned insect specimens. His analysis revealed that New Haven's bioswales supported some insect groups better than those found in Hamden, CT, which was contrary to his initial prediction at the beginning of the project. He concluded that improvements might be needed for bioswales in both New Haven and Hamden for them to reach their maximum effectiveness. This experience allowed him to gain a better understanding and appreciation of insect diversity in Connecticut.



MARIA SILVA

Maria Silva actively collaborated with community partners, including the Danbury Pollinator Pathway Group, to plan, prepare, and plant native gardens around the Science Building at the Western Connecticut State University (WCSU) Middtown campus. This work involved close communication with WCSU Facilities to secure funding for plants and manage targeted areas, while also sparking discussions about improving campus-wide gardening and landscaping practices. The project resulted in enhanced ecosystem services in existing garden beds, the creation of new green spaces with native flowers, and the development of a connected green pathway to bolster pollinator habitats around campus. The project pushed her beyond her comfort zone as she initiated stakeholder conversations, negotiated budgets, presented to groups, and developed native plant identification skills during hands-on planting. These challenges built her leadership skills and instilled patience through tasks such as removing invasive species and nurturing seedlings. Ultimately, the experience reshaped her view of stewardship as an ongoing commitment, influencing her academic, professional, and daily approaches to environmental responsibility. This hands-on project not only transformed campus spaces but also strengthened her capacity for driving meaningful change.



MATTHEW BURKE

Matthew Burke aimed to support brook trout conservation in the Naugatuck River Watershed by identifying suitable spawning habitat, documenting the presence of redds, and developing a standardized monitoring approach to inform management decisions by CT DEEP and Trout Unlimited. Conducting research that aligned with his passion for fishing while directly benefiting the local community made the experience both rewarding and engaging. Professionally, the project strengthened his field ecology, GIS, and project design skills, highlighting the challenges and nuances of data collection and the need for adaptability when conducting research. Ultimately, the project produced documented redds, habitat assessments, and spatial datasets that will aid in the support of brook trout monitoring, restoration planning, and conservation efforts.



SOPHIA CHIAIA



Sophia Chiaia's stewardship project aimed to update and create new media associated with the Westside Nature Preserve to improve the public-facing online presence of this resource at Western Connecticut State University. She accomplished this by creating an inventory of the numbered stations at the preserve, documenting its history, and improving the website by consolidating pages and adding student art, research, classroom resources, and biodiversity content. She also explored the hidden trails and documented her findings through field maps, created new maps to make navigation easier for visitors, and designed new kiosk signage to welcome guests upon arrival. This project allowed her to reconnect with nature and her community in a meaningful way while also highlighting an invaluable resource at WCSU that was in need of updates and attention. The opportunity to collaborate with an internal partner such as the Westside Nature Preserve and learn from the preserve's committee proved to be a rewarding experience.

HARSHITA KAUR

As part of the Applied Stewardship course, **Harshita Kaur's** project supported the Jane Goodall Center Permaculture Garden at Western Connecticut State University, complementing the Jane Goodall Institute's principles of stewardship, education, and community engagement. Harshita's work involved leading and supporting seasonal garden maintenance and harvest events, documenting and mapping the garden layout for instructional and digital use, researching and developing garden signage and herbarium resources, and curating educational materials for students and volunteers. Harvested produce was donated to food access programs, extending the garden's impact beyond campus. Collectively, these efforts strengthened the garden's function as a learning space, supported volunteer participation, and reinforced the role of campus-based stewardship in promoting sustainability, education, and community food security.

