



APPLIED STEWARDSHIP

Biology Newsletter

SPRING 2024 ISSUE



Creating a Japanese barberry plan for the WCSU Westside Nature Preserve

Sandra Zapata-Ramirez had the goal of evaluating the Japanese barberry invasion on the Westside campus and proposed a reasonable plan to manage it. Zapata states, "This plant is invasive and has negative impacts in the environment by pushing out native vegetation, public health impacts since it provides favorable habitats for ticks, and it also causes economic harm due to the money and resources needed to get rid of this plant." The plan included an introduction on Japanese barberry history, ecology, biology, and an explanation of plant identification, along with methodology and the available management strategies.



The final Japanese barberry removal proposal included a combination of mechanical removal, and pesticides use over 5 years. Zapata says, "Overall, I really enjoyed stewardship because it allowed me to contribute to the health of a green space that I frequently utilize in a meaningful way. I also took this opportunity to learn new skills and techniques that I was curious about such as conducting the field survey of the area or using the new ArcGIS Pro software. I can see both skills being incredibly necessary in future projects.



Delineation of Vernal Pools

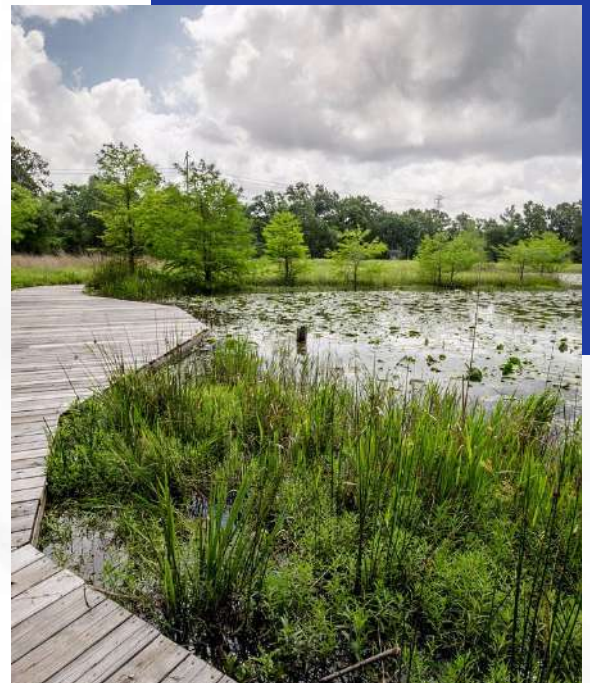
Henry Schwendler had spent his time at the Flanders Nature Center, stating "I have been able to apply my knowledge and skills of working with vernal pools to provide Flanders with meaningful data that will allow for them to improve their management and research decisions." He also expresses his gratitude towards the staff at the center, "When first



developing this project, the staff at Flanders were very clear about their expectations and outcomes. That helped me design the methods for delineating and assessing the biodiversity of the vernal pools in a way so that it can be used by their land management committee and volunteers. The staff and volunteers at Flanders were very receptive and wanted to learn as much as they could so that they could understand the methodology to continue long term support for the vernal pools. I had the opportunity to assist in educational events about as well as present to the board of trustees on the importance of vernal pools. All of these experiences helped me better understand how to communicate the science behind vernal pools to people who do not have a background in science.” However, he could not have completed his research without the support from the graduate program, “It has allowed me to connect with a WCSU partner and provided support for me in developing my skills as a scientist. Vernal pools are important parts of our ecosystems and I feel it is necessary to monitor them to better understand the ecosystem’s health. I am glad the importances of vernal pools has been recognized by Flanders and their willingness to support this work.”

Improving Community Engagement and Volunteer Readiness at the Houston Arboretum

As a Houston, Texas resident of 3 years, **Brittany Martin** conducted a project involving the creation of an interactive map of conservation opportunities for prospective volunteers at the Houston Arboretum. Martin says, “This project has emphasized the significance of effective communication and collaboration in stewardship efforts. From working closely with stakeholders to gather input and feedback, to designing the map interface with user experience in mind, I have learned the importance of engaging different perspectives and leveraging collective knowledge and expertise, to achieve a shared goal. This collaborative approach not only led to the success of the project, but also gave way to a blossoming relationship with the Arboretum, its staff, and my direct community.”



By leading this project, Brittany expresses that the educational aspect of stewardship is fundamental to building a more environmentally conscious and engaged society. When reflecting, she states, “I thoroughly enjoyed my stewardship experience, and feel that I got more out of it than initially expected. Not only has it deepened my understanding of the intersection between technology, education, and environmental stewardship, but also reaffirmed my commitment to making a positive impact on the world. In a society that is so chronically online, it’s easy to forget the joys and wonders of the natural world, no matter how small. Being outside and reconnecting to nature, in whatever capacity, is so important, and I’m so fortunate to have had the opportunity to quite literally “get out more” during this project. Through this project, I have not only gained technical skills, but also deepened my understanding of the importance of environmental education and community engagement.”



Connecticut Department of Transportation: Vegetation Management Assessment Report

For her stewardship project, **Carly Mengler** worked with Trout Unlimited on a policy issue concerning tree cutting and vegetation removal along 4 miles of Route 7. The work done at this location went against regulations that are currently in place through the Connecticut Department of Transportation (CTDOT) vegetation management guidelines. CTDOT work sparked the need for a CT vegetation management assessment report that she created. This report emphasizes the need for new state laws and regulations to be implemented to protect waterways and wetlands from roadside vegetation maintenance. The report entails recommendations for CTDOT including increased training protocols, an environmental checklist prior to work, permits for environmentally sensitive areas, and riparian buffer maintenance. This in-depth report is the initial push to change current state laws to show how CT is far behind on updated environmental protocols compared to surrounding Northeast states. Mengler states, "Stewardship is an important aspect of the IBD program to work with outside partners to gain more professional development skills. It allowed me to apply information and skills I have acquired from class to external projects. Working with Trout Unlimited (TU) and conducting outreach to various state departments gave me important contacts that will be useful for a future career. It also gave me a reality check that citizens and environmental organizations are the initial push to make environmental changes; without this step, state departments will continue doing the same work without repercussions."

She expresses her gratitude towards her outside partner, "Jeffrey Yates from TU, showed me important skills to catch the attention of those organizations/people in a way to make them care about the issue. My knowledge on current CT laws and regulations have expanded significantly and understanding the overall process of how a bill can become an official law. There is a much larger process that I was not aware of before my stewardship project of the steps to take once you have done research on the policy issue. Pushing for environmental change takes several other organizations and government leaders who are passionate about the same issue to succeed with passing a bill. I also learned more about the importance of riparian buffers and roadside vegetation practices including methods to maintain them. I appreciated the opportunity to work with an amazing organization, TU, as Jeff provided efficient feedback and advice on forming this assessment report."

