



RUTGERS UNIVERSITY

Water Resources Program

New Jersey Agricultural Experiment Station



MAY/JUNE 2025

## WATER PAGES eNEWSLETTER

### Something New for Rutgers Day 2025

Rutgers day is a melting pot of eye-catching programs and activities, and this year the RCE Water Resources Program decided to take part! Our exhibition revolved around the Municipal Separate Stormwater Sewer System (MS4) permit that is being rolled out by the the New Jersey Department of Environmental Protection (NJDEP). The purpose of this demonstration was to explain the permit in a format digestible to people of all ages and scientific backgrounds.

We organized a hands-on activity that got people to use their brains a little bit, instead of just handing them a prize and sending them on their way. The flow of the demo went like this: A small group of 2-3 people walk up to a mini-scale model of a neighborhood, complete with a street (brown tarp) and three houses (painted cardboard boxes) with a river in the backyard (blue tarp). The landscape also has mini cones placed throughout, with icons drawn on the bottom.



*Alena Brayshaw, 2025 Rutgers Day, April 26 [Photo credit: Meghan Shea]*

The group is tasked with solving the water quality issues of the local river, but there

are three obstacles in the way. Oh no! 1) We don't have our stormwater infrastructure mapped out. 2) We don't know where the hot spots in the river are located. 3) We don't know where to implement green infrastructure to help solve the problem.

The group is first given a whiteboard map of the landscape (with important features noted) and tasked with marking down the stormwater structures that they find on the map. Different pictures of infrastructure are drawn on the bottoms of the cones, and the "pseudo-surveyors" (i.e., the group) have to flip over the cones to verify what infrastructure is present (much like infrastructure mapping for the watershed inventory report). Once that is complete, the data from the map is logged into our modeling system.

The next step is to map out the impaired zones of water in the river. More cones will be flipped over, reflecting the water quality in that zone (either green, yellow, or red). Information is recorded on the map and logged into the computer (representative of the watershed assessment report).

Lastly, our modeling system and engineers determine where to place green infrastructure based off of the surveyed information. While placing down a green cutout of a rain garden, we explain the concept of intercepting runoff before it encounters the drain. Rainwater hits impervious surfaces and collects pollutants as it flows along. The more impervious surfaces, the worse the water. The now installed rain garden will filter out contaminants and promote groundwater infiltration, and thus improve the water quality of the previously-impaired zone of the river (the cone is overturned and is now green). We then explain to the group that our program helps municipalities complete this permit and we can design and implement green infrastructure. Some said that it was "The best demonstration they've seen all day!"





*Benny Roe, 2025 Rutgers Day, April 26 [Photo credit: Meghan Shea]*

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## Lake Owassa Rain Garden Grant Program Moves Forward with Custom Homeowner Designs

This spring, the **Lake Owassa Community Association (LOCA)**, in partnership with the **Sussex County Municipal Utilities Authority (SCMUA)** and the Rutgers Cooperative Extension (RCE) Water Resources Program, launched the 2025 Rain Garden Rebate Program to help homeowners curb nutrient pollution and protect lake health. As part of the program, homeowners were invited to attend a training session in early March, followed by personalized virtual design sessions.

The design sessions, which were held on March 13 and April 16, were a major success. With guidance from the RCE Water Resources Program engineers and landscape architects, participants developed plans for 2,370 square feet of vegetative buffer plantings and 1,835 square feet of rain gardens to be installed on residential properties. These practices are designed to manage stormwater from a combined 5,380 square feet of drainage area. In total, 1,381 native plants were selected to be included in these custom installations, helping to reduce phosphorus runoff and support pollinators.



The program builds on LOCA's ongoing efforts to reduce harmful algal blooms in Lake Owassa by cutting down on the phosphorus inflow from stormwater runoff.

Here are some photos of John Vogel's 290-square-foot vegetative buffer, which was designed by the RCE Water Resources Program and installed by John over the last month. He was so pleased with the results that he's now creating a second buffer on the opposite side of the patio to mirror the original design.







*Lake Owassa 2025 Rain Garden Rebate Program completed project, May 2025  
[Photo credit: John Vogel]*

## The Green Infrastructure Champion Conference was a Great Success



On May 30, 2025, at the Rutgers EcoComplex in Bordentown, NJ, we concluded our seventh year of the **Green Infrastructure Champions Training Program** with a gathering of champions who shared their stories and experiences. The 2025 program generated 142 new certified green infrastructure champions to join the 766 certified champions from the previous six years. Thirty-five of the champions have taken the class multiple

times, some as many as four times. I guess we are doing something right!

The Green Infrastructure Champions Conference started like all good conferences with fresh Jersey bagels, coffee, and a fantastic keynote speaker, Dr. Stephen Souza. Many people remember Steve from his time as President of Princeton Hydro. He is semi-retired now and has his own company, Clean Waters Consulting. Steve spoke a little about how he got into this business, and like most of us, it started as a kid gaining a love of the streams and coastal waters, for Steve it was in New England. In his talk, he emphasized the need to retrofit existing development if we have any hope to improve water quality and reduce flooding in New Jersey. Steve noted that 80% of New Jersey's development occurred before there were any stormwater management regulations. He frequently praised the work of the green infrastructure champions



and left the audience with a strong feeling of empowerment. This was a great start to an incredible day. Steve set the tone for the rest of the day.

We had 12 champions each give a 15-minute talk about projects they are doing, lessons learned, and how they are truly making a difference.

- Patricia Lindsey-Harvey led us off with tales from Willingboro. Hurricane Ida wiped out many homeowners in Willingboro who did not have flood insurance. People had to walk away from their homes; a sad tale that resulted in Pat pursuing green infrastructure projects in town and working with local leaders to try to start a stormwater utility. Her efforts have resulted in Willingboro and the RCE Water Resources Program receiving a grant from the National Fish and Wildlife Foundation to design flood control measures in the Mill Creek Watershed.
- Kristine Rogers from Sussex County Municipal Utilities Authority's Wallkill River Watershed Management Group spoke about all the green infrastructure projects they are implementing in Sussex County.
- David Kois, Township Planner for Hillsborough, spoke about his efforts to change the culture of municipal government to embrace green infrastructure.
- Jennifer Duckworth spoke about how implementing green infrastructure projects at her home gave her confidence to do bigger projects in the community, even though sometimes schools can neglect a project and ultimately eliminate it. She encouraged the audience to persevere.
- After a great lunch, we continued with Ann Marchioni from Caldwell who turned her green infrastructure champion certification into over \$100,000 in grant funding to build rain gardens in her town.
- Doriann Kerber talked about all her great work in Middlesex County with schools, libraries, boy scouts, girl scouts, the Lions Club, the Kiwanis Club, and the Rotary Club. Doriann excels at finding ways to get projects in the ground.
- Amanda Archer is at the Jacques Cousteau National Estuarine Research Reserve in Tuckerton and discussed how she is putting together teams of certified champions to help property owners design rain gardens.
- Kathy Redling is the Assistant to the Bernardsville Public Works Manager in Bernardsville where she has motivated the entire public works department to build and maintain rain gardens and bioswales.
- Faith Teitelbaum is with the Whale Pond Brook Watershed Association and has been advocating for green infrastructure in the Long Branch area of Monmouth County for many years. She knows how to get people's attention and how to get projects built.
- Annette Loveless is in Lawrence and used her green infrastructure champion certification to do a stream restoration project in Lawrence where she recruited over 30 volunteers to do live staking of a tributary to Colonial Lake, an outstanding project that was fully endorsed by their public works department. Annette's excitement for green infrastructure is infectious. She got an amazing

response from the audience.

- Britta Forsberg and Karen Argenti are with Save Barnegat Bay. These women know how to get the community engaged including elected officials, public works directors, and even the folks enforcing the stormwater regulations at the local level. They shared their secret formula with the audience which mainly consisted of knowing your audience and providing everyone good food and down to earth speakers.

The conference ended with Cody Obropta from the Maine Department of Environmental Protection (DEP). Cody is a stormwater manager at the Maine DEP and shared his experience in Maine, a state that is now accepting many climate refugees from New Jersey. Cody helps teach the Green Infrastructure Champions Training Program, and it was great for people to get to meet him in person. Since the Green Infrastructure Champions Training Program is virtual, we have folk from all over the country participating, especially a lot of great people from Maine.

The RCE Water Resources Program tries to make our program and conferences easy for people to attend. The conference was free, as is the Green Infrastructure Champions Training Program. We will continue to offer online webinars in the fall for our certified champions and anybody who is interested in helping restore their waterways and reduce flooding. Check us out at [water.rutgers.edu](http://water.rutgers.edu)!

~ Christopher C. Obropta, Ph.D., P.E., Extension Specialist in Water Resources

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## 2025 Sustainable New Jersey Summit at Bell Works



*Gillian Mulvoy, Benny Roe, Alena Brayshaw, Matthew Leconey at the Sustainable New Jersey Summit, May 2025 [Photo credit: Meghan Shea]*

On May 9, we attended the **2025 Sustainable New Jersey Summit** at Bell Works, Holmdel, NJ. As one of the event's exhibitors, we had a table to promote the Rutgers Cooperative Extension (RCE) Water Resources Program. We are currently offering municipalities help with the renewed MS4 permit, and we distributed flyers about our technical assistance program at the Summit. We met with many Green Team members and had good conversations about the importance of managing stormwater through green infrastructure.

Our table stood alongside others for renewable energy, recycling, public utilities, environmental nonprofits, and more. Throughout the event, there were many educational and insightful sessions. Notably, Dr. Christopher Obropta was one of the guest speakers on a panel for the "*Is your Community Climate Ready? Introducing the New Gold Star!*" session. He talked about Green Infrastructure Planning as one of the key ways for communities to achieve the new Gold Star in Climate Readiness through Sustainable Jersey. Another highlight was the session "*Connecting State Legislation and Local Sustainability Efforts for Collective Impact*" featuring State



Senator Bob Smith and Assembly Speaker Craig J. Coughlin who talked about New Jersey's lead in environmental sustainability on the regulatory level and where further work is needed. It was encouraging to hear about these efforts on important issues to continue to make the state better prepared for climate change and create a more sustainable version of New Jersey!

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## A New Rain Garden for Pitman Memorial Elementary School

With support from the **South Jersey Land & Water Trust** and local contractor Ernie Davis, the Rutgers Cooperative Extension Water Resources Program recently installed an 810-square-foot rain garden at Pitman Memorial Elementary School in Gloucester County, NJ. Designed to manage stormwater runoff from an adjacent 3,000-square-foot asphalt parking lot, the garden is expected to capture and treat approximately 70,355 gallons of runoff each year.

Located just beside the school playground, the rain garden has become a functional and educational addition to the campus. Students enjoyed learning how the system helps reduce flooding and pollution while supporting native wildlife. In just a few weeks, they will plant 520 native perennials and grasses in the garden, transforming the space into a vibrant home for pollinators and a colorful enhancement to the school grounds. This project exemplifies how green infrastructure can enhance environmental resilience and engage young learners in sustainability.



*Rain garden installation at Pitman Memorial Elementary School, Gloucester County, NJ, May 2025 [Photo credit: Allison Nevulis]*

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# Learning and Sharing Success Stories from the Northeast NUEL Regional Meeting

On this blazing hot first week of June, the MS4 engineers took a trip up to Hartford, CT to join the **Northeast NUEL (National Urban Extension Leaders) Regional Meeting**. Extension programs from all over gathered here to showcase the inspiring projects they're working on, ranging from shipping container greenhouses in indigenous communities to making SNAP education programs more accessible in Hispanic and Latino communities. These programs may not have the same focus as ours, but you can find common ground between them. The end goal is the same, to serve the communities we reside in.

Matt Leconey presented our MS4 technical assistance program to the extension professionals, which detailed how we help municipalities comply with new municipal stormwater regulations while working directly with the New Jersey Department of Environmental Protection. Our ability to be a direct liaison between communities and regulatory agencies won us an award for implementing an exemplary green infrastructure program! We would like also like to extend our congratulations to the other award winners, including programs from Rutgers!

One thing that separates this event from larger conferences is the level of engagement between the professionals here. This setting has small and intimate breakout rooms that encourage bouncing ideas off of each other, which is not something easily facilitated in a conference with hundreds of people. This environment provides fresh perspectives and valuable resources that can be used to shape the program. For example, when considering outreach, it is important to understand how an audience will receive a message and how it depends on their economic/cultural/generational background. We were inspired by the projects that were showcased, and we learned many lessons from our colleagues and will incorporate them into our future work.





## **Hillsborough Township's Green Living & Wellness Fair**

Occasionally, the Rutgers Cooperative Extension (RCE) Water Resources Program will table at a municipal, county, or non-profit event. I try to respect my staff's work-life balance, so rarely do I ask my staff to give up a Saturday or evening to attend these events. This past Saturday morning I did attend the Hillsborough Township Green Living & Wellness Fair with a couple of my very dedicated staff.

The Fair was held after the YMCA's 5K Hop, a run that ends at the municipal building on Saturday morning during the Fair, which runs from 8 to 11 am. I estimate the attendance at 200 adults and children. We handed out rain garden flyers and demonstrated stormwater runoff with the EnviroScape Model. As always, the model was a great success with children and their parents. We also got a lot of traffic from the boy scouts, girl scouts, and their parents. We displayed our poster on "Rain Garden Construction as a Youth Leadership Project." Many scouts and parents use the QR Code on the poster to get information for their child to consider building a rain garden as a Boy Scout Eagle Project or a Girl Scout Gold Award Project. I explained to many attendees what a rain garden was and why they might want to build one. We talked about it being self-watering, a great way to attract pollinators like butterflies, and a wonderful way for them to do their part to reduce pollution going to the local waterways and also help reduce localized flooding.



*Erik Lin talking with Boy Scouts at the Hillsborough Green Living & Wellness Fair, June 2025 [Photo credit: Christopher Obropta]*



Overall, it was a good experience for me and my staff. I did find it a little disappointing that so few people were willing to give up an hour and stop by the fair. I know many people are working hard all week and must spend the weekend cleaning house, doing yard work, grocery shopping, or taking their children to soccer, baseball, or taekwondo class. I was in the same place when my boys were young, but I still tried to find time for helping on community projects, environmental projects, and supporting local events like the Green Living & Wellness Fair. I encourage you all to support events like this in your own community; you never know what you are going to learn or who you are going to meet!

~ Christopher C. Obropta, Ph.D., Extension Specialist in Water Resources



***Dr. Obropta at the Hillsborough Green Living & Wellness Fair, June 2025***  
***[Photo credit: Erik Lin]***



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