RUTGERS UNIVERSITY
Water Resources Program
New Jersey Agricultural Experiment Station

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WATER PAGES eNEWSLETTER

National Collaboration on Green Stormwater Infrastructure and Agriculture

On Wednesday, September 25, 2024, the multistate hatch project team for the NE2206 Green Stormwater Infrastructure and Agriculture project met at the University of Connecticut and virtually. Twelve participants shared their ongoing green stormwater infrastructure research and extension efforts. The goal of the meeting was to share ongoing efforts, identify opportunities for collaboration, and discuss linking the multistate hatch project with the National Institutes of Water Resources (NIWR) and USEPA Stormwater Centers of Excellence.

The objectives of the NE2206 project include:

1. Conduct research on how to best adapt green stormwater infrastructure to address agricultural runoff

2. Develop a better understanding of the relationship between green stormwater infrastructure design features and pollutant removal and volume reduction capabilities

3. Develop new climate resilient design criteria for green stormwater infrastructure

4. Develop a better understanding of the economics/cost effectiveness of green stormwater infrastructure and the ecosystem services that these systems provide

5. Develop Extension programming for engaging communities to implement green stormwater infrastructure to address runoff from existing development

6. Develop curriculum to educate undergraduate and graduate students and workforce development on the planning, design, and implementation of green stormwater infrastructure

7. Develop a better understanding of the mechanisms needed to encourage adoption of green stormwater infrastructure by residents, corporations, businesses, developers, and municipal officials

The meeting attendees were a nice mix of research and Extension faculty. Some of the attendees are at the beginning of their careers while others are

winding down. The group believes that this multistate team can be the national leaders on stormwater management, which is desperately needed. The participants are offering workforce development programs for professionals as well as citizen action programs for residents in their states. There appears to be a great opportunity to expand these training programs from a state level to a regional or national level.

Several researchers are focusing on enhancing phosphorus removal of green infrastructure by adding treatment plant residuals to the soil mix or selecting compost materials that are low in phosphorus. Some researchers are examining how to better manage stormwater runoff from solar installations with green infrastructure. Other researchers are looking at the co-benefits of green infrastructure, such as reducing local heat stress.

With regard to agriculture, participants are focusing on riparian buffer restoration and bioretention systems to reduce pollutants entering waterways for agricultural land uses. Bioretention systems are also being studied to treat runoff from dairy farms and horse farms. These systems are being designed as a monoculture of switchgrass to help reduce the maintenance requirements.

A group of participants are focusing on extension programming to engage the public and deliver cutting-edge science-based information. Programs for landscapers, private homeowners, political leaders, and businesses were shared. As part of these extension efforts, participants are conducting research on the social dimensions to determine the actions needed to promote behavior change.

These land grant university multistate projects are generating cutting edge research in a collaborative environment to optimize results. The results are being quickly shared with stakeholders in robust outreach programs for a wide range of audiences.

Congratulations to Dr. Obropta!

The Candace McKee Ashmun Environmental Legacy Award was presented to Christopher Obropta at the 52nd Annual ANJEC Congress. This award is named for ANJEC's first executive director, who served a leadership role in New Jersey's environmental community for over 50 years. Hundreds of local environmentalists from throughout New Jersey gathered at the ANJEC Congress to share in this celebration. Below is Dr. Obropta acceptance speech:

"It is an honor to be here today receiving the Candy Ashmun Legacy Award. When I was told they would like to give me the award, I was worried I'd have to accept the award on Friday and retire on the following Monday. They assured me that I could keep working, which is great because I am nowhere near done with fixing the waterways of the state or shaping the minds of my young college students to adopt a green approach in all they do or getting all of you excited about advocating for green infrastructure in your communities.

I want to thank my staff. Without them none of what I do would be possible. Lisa Galloway Evrard has been with me since the beginning. We worked together as consultants, and then she joined me at Rutgers when I escaped the consulting

world. She makes sure all our work is of the highest caliber. Matt Leconey, Hollie DiMuro, and Chris Perez have been with me 8, 9, and 10 years, and I appreciate them every day. Matt is here with me today with three of my new engineers, Alena, Gillian, and Benny.

One of my goals with my Water Resources Program was to train the next generation of water resources professionals. Over the years, I had over 40 full-time staff working with me, a dozen or more graduate students, and over 100 undergraduate student interns. These young staff and students' desire to save the planet and make the world a better place has energized me over the years.

I want to thank all the nonprofit groups I have worked with while at Rutgers to include ANJEC, South Jersey Land and Water Trust, the Pinelands Preservation Alliance, the Highlands Coalition, American Littoral Society, the Watershed Institute, and so many more. I also want to thank NJDEP not just for funding many of my projects and programs but for being an active partner in these efforts, sharing their wisdom and knowledge to make every project the best it could be.

I recently met with my colleagues from universities across the nation, and we all agree that more research needs to be done on green infrastructure, but more importantly, we need to get more projects into the ground. To do this I need your help. Become a Green Infrastructure Champion, classes begin in January, and together we can help municipalities across New Jersey implement green infrastructure to improve water quality and help reduce localized flooding. Thank you again for this great honor."

The RCE Water Resources Program is going strong. Currently Dr. Obropta leads 11 full-time staff and many student interns to help address the water resources problems of the state. We hope you will join the staff and students in congratulating Dr. Obropta for receiving the Candy Ashmun Award!

L. to R.: Gillian Mulvoy, Benny Roe, Dr. Obropta, Matt Leconey, Alena Brayshaw

Fall Maintenance Tips

***Liatris spicata*,**
Dense Blazing Star

***Eutrochium fistulosum*,**
Joe-Pye Weed

As autumn sets in, it's time to put your rain garden to bed for the winter. Here are some tips on how to make sure it's cozy!

- Identify desirable plants using your maintenance guide, plant list, and plant ID apps for your phone (such as PlantNet or Picture This). Prune or cut back previous perennial growth. Remove non-desirable and invasive plant species.

- Inspect inlet and outlet structures, stone, pipes, drains, and grates. Remove accumulated debris from the rain garden.

- Rake out excess leaves and add them to your personal compost bin or set them out in leaf bags for collection. A small layer of no more than two (2) inches is acceptable and will add organic matter to the rain garden soil.

- Check the height of the berm; rain gardens should generally be about six (6) inches deep from the top of the berm to the mulched base. If erosion has caused the berm height to decrease, consider adding soil material to the berm before mulching it.

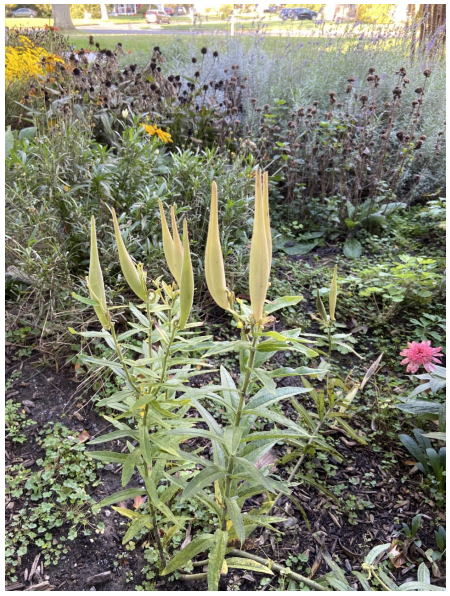
- For plants that have gone to seed, collect the seeds for sharing, or spread them around your rain garden to encourage more beneficial plants. Some plant seeds are also valuable food for winter birds and can provide winter interest to your garden; you decide what to do with the seed heads of the plants!

- Add a two (2) to three (3)-inch layer of undyed triple shredded hardwood mulch. This will help curtail weeds in the spring.

Take notes of what plants did well this year and which did not, and you will have this

to compare to next year. Use this information to help you decide which plants to promote and which ones might need to be pulled from the stage. Now you will really start to know your garden in all its seasons!

Rudbeckia hirta,
Blackeyed Susan



Asclepias tuberosa,
Butterfly Weed

[Photo credit: Lisa Galloway Evrard]

HOLD THE DATES: Become a leader, become a Green Infrastructure Champion!

The next Green Infrastructure Champions Training Program will be offered every other Friday from 10AM to 12NOON starting January 10, 2025!

All sessions for the 2025 training program will be offered via an online format.

Generous support from our funders is allowing us to offer the 2025 training for FREE.

Here is what we can offer as part of the program:

- Training on green infrastructure planning and implementation
- Technical support to develop a design for a green infrastructure demonstration project
- Networking opportunities with other certified Green Infrastructure Champions for mutual support
- Assistance with grant writing

2025 Training Program Class Schedule:

1. How to identify green infrastructure projects in your town (January 10)
2. Moving from planning to implementation of green infrastructure (January 24)

3. Maintaining green infrastructure practices/projects (February 7)
4. Stormwater management regulations, policies, and ordinances (February 21)
5. Green infrastructure planning and implementation for Sustainable Jersey points (March 7)
6. Green infrastructure projects for targeted audiences (March 21)
7. How to design and build a rain garden (April 4)
8. Retrofitting traditional detention basins with green infrastructure (April 18)
9. Developing green infrastructure master plans for an entire site or neighborhood (May 2)
10. Using green infrastructure to promote climate resiliency (May 16)

Registration is required.
*Coming soon to **water.rutgers.edu**! Registration will open early November.*

Attendance at a minimum of five (5) classes is **needed for certification**.

This program is partially funded by the **New Jersey Agricultural Experiment Station** and **New Jersey Sea Grant Consortium** and is a collaboration of the **Rutgers Cooperative Extension Water Resources Program** and the Green Infrastructure Subcommittee of **Jersey Water Works**.

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Rutgers Cooperative Extension Water Resources Program
water@envsci.rutgers.edu
www.water.rutgers.edu

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