



MARCH 2022

## WATER PAGES eNEWSLETTER

### Happy 50th Anniversary, Clean Water Act!



*Christopher Obropta, 20 years ago, conducting a Rutgers Cooperative Extension educational program; his son, Cody, is in the front with the red hat*

I turned on the New Jersey News the other morning to hear a story about the 50th anniversary of the federal Clean Water Act (CWA). Surprisingly, I had just given a talk on water regulations in February as part of the Green Infrastructure Champion Training Program, but at that time, I didn't even think about it being the 50th anniversary of the CWA. The CWA was signed into law by President Richard Nixon in 1972. The two fundamental goals of the CWA were to: 1) eliminate the discharge of pollutants into the nation's waters (zero discharge of pollutants by 1985) and 2) achieve water quality levels that are fishable and swimmable by mid-1983. When the Act was signed into law, 60% of the waterways in the United States were not "fishable or swimmable." According to the New Jersey News, 50% of our nation's waterways are fishable or swimmable today.

The New Jersey News was discussing a report that was released by Environmental Integrity Project entitled "The Clean Water Act at 50: Promises Half Kept at the Half-

Century Mark.” According to this document, New Jersey is #2 behind Delaware in most impaired waterways at 95% (Delaware is 97%). When I started the Rutgers Cooperative Extension Water Resources Program 20 years ago, 95% of New Jersey waterways were impaired. Here we are 20 years later and according to this report, we have made no progress. Several laws have been passed since I joined Rutgers:

- 2004 New Stormwater Management Regulations
- 2004 Municipal Separate Storm Sewer System (MS4) Permits issued
- 2011 New Jersey Fertilizer Law
- 2021 Updated Stormwater Management Regulations

Many of these laws targeted new development, but maybe these laws just stopped the health of our waterways from getting worse, maintaining the status quo. Maybe these laws allowed New Jersey to continue to develop without further degrading the health of our waterways. Either way, we have yet to achieve the goals of the CWA.

I emailed this information to my staff and asked them: *“Now what? I guess we just must try harder. We need to up our game! Think about where we are and where we need to go. We have a big following of impressive stakeholders. Let's figure out how to engage these stakeholders to take action and clean up New Jersey's waters.”*

Here is the response I received from one of my staff:

*“I agree, I think it's a good opportunity to take a step back and say, what is really causing these waterways to be impaired and what solutions will actually clean them in a reasonable time period? What needs to happen in research, planning, politics, and real world action to make that happen? I don't think real world solutions can happen without a combination of all of them, and we certainly have a role to play in each of them.”*

It is a great thing when you surround yourself with smart, passionate people. It's time to get back to work. The RCE Water Resources Program will continue to focus on educating and engaging the people of New Jersey to retrofit existing development with green infrastructure. This is the only way to clean up our waterways. I hope you will all join us in these efforts. ~ Christopher Obropta, Ph.D., P.E., Extension Specialist in Water Resources

---

## How can we create communities resilient to major storm flooding?

During Hurricane Ida, municipalities throughout New Jersey received intense rainfall during a short period of time that led to severe flooding in many areas that caused major property damage and disrupted people's lives. Hurricane Ida dropped 4 to 8.5 inches of rain in a 24-hour period depending on the region. Storms of 4 inches on average occur once every 5



years while storms of over 8 inches on average only occur once every 100 years. However, due to climate change, it is possible these storms will become more frequent as recent history seems to indicate. Municipalities are looking for ways to better understand flooding and find solutions that will help deal with these catastrophic events.

Holmdel Township reached out to the Water Resources Program looking for solutions to frequent flooding that occurs on Palmer Avenue and Middle Road. The Water Resources Program created a hydrologic and hydraulic model of the watershed to better understand what was going on in the watershed. These models were developed using HEC-HMS and HEC-RAS, which were developed by the Army Corp of Engineers. The hydrologic model gives information about the volume and flow of water coming from different parts of the watershed, while the hydraulic model gives information about how water will flow in the river network which allows the creation of floodway profiles for various scenarios.

These models allow Holmdel to identify locations that are generating large volumes of stormwater runoff so they can target their efforts in reducing runoff in these areas or implement control structures that could store stormwater upstream and slowly release it to prevent flooding in downstream locations. While we always recommend implementing green infrastructure practices to reduce stormwater flows and treat stormwater, large scale flooding from intense storms requires a large amount of effort that may be better resolved with large-scale control structures like detention and infiltration basins. However, space for such practices may be limited in developed areas, so small-scale distributed practices may still be more feasible. Either way, the hydrologic and hydraulic models are extremely helpful planning tools as solutions can be proposed and integrated into the model to see what the expected results would be. Without it, there is a lot of guessing of what scale of implementation is required to resolve a flooding issue.

By developing models and coming up with creative solutions, many flooding issues can be resolved. However, some flooding events will be nearly impossible to avoid due to the sheer amount of rainfall. In these cases, considerations should be made to remove all sensitive properties, such as residential properties, out of floodplain areas. The Blue Acres program provides an avenue for homeowners to sell their properties and have these lands converted into open space for recreational or conservational uses. By combining these approaches together, New Jersey can develop communities that are resilient to flooding and prevent major damage during major storm events.



**It's not too late to become a Green Infrastructure Champion!**

**Registration for the 2022 Green Infrastructure Champions Training Program is STILL open!**

**Don't miss out! Register TODAY!**

## Upcoming virtual classes:

4/8 "How to design and build a rain garden"

4/22 "Retrofitting traditional detention basins with green infrastructure"

5/6 "Developing green infrastructure master plans for an entire site or neighborhood"

5/20 "Using green infrastructure to promote climate resiliency"

Contact Hollie DiMuro at [hdimuro@rutgers.edu](mailto:hdimuro@rutgers.edu) if you are interested in registering!

A promotional poster for a virtual information session titled "Rain Garden 101". The poster features a green background with a close-up of a fern frond. The text is arranged in a white-bordered box. At the top, it says "SOUTH JERSEY WATER SAVERS PRESENTS". Below that, the title "Rain Garden 101" is written in large, bold, yellow letters. Underneath the title, it describes the session as a virtual information session focused on helping residents beautify their property, with a note that qualifying residents are eligible for a rebate. The date and time, "April 6th, 2022 at Noon and 7pm", are highlighted in yellow. A list of zip codes follows: 08332, 08361, 08360, 08320, 08310, 08323, 08353, 08098, 08043, 08318 + Evesham, Medford, Tabernacle, Pemberton, and Lumberton. Contact information and a website link are provided at the bottom of the box. Small text at the very bottom of the poster lists partner organizations: ANJEC, American Littoral Society, Pinelands Preservation Alliance, Rutgers University, NJ League of Conservation Voters, NJ Conservation Foundation, South Jersey Land and Water Trust, and New Jersey Audubon.

SOUTH JERSEY WATER SAVERS  
PRESENTS

# Rain Garden 101

A virtual Information Session  
focused on helping you *beautify  
your property*. Qualifying residents  
eligible for a rebate listed below.

**April 6th, 2022 at  
Noon and 7pm**

08332, 08361, 08360, 08320, 08310, 08323,  
08353, 08098, 08043, 08318 + Evesham, Medford,  
Tabernacle, Pemberton, and Lumberton

Please reach out to [jack@pinelandsalliance.org](mailto:jack@pinelandsalliance.org) for details  
Go to <https://www.sjwatersavers.org/makeover-sessions> to sign up!

Presented in partnership with ANJEC, American Littoral Society, Pinelands Preservation Alliance,  
Rutgers University, NJ League of Conservation Voters, NJ Conservation Foundation, South Jersey  
Land and Water Trust, and New Jersey Audubon.

## Landscape Makeover Training Sessions

April 6, 2022, Two Sessions:  
12:00 PM & 7:00 PM

**Are you interested in creating a beautiful landscape for your home that helps protect the environment?**

Join us for a workshop to learn more about rain gardens and how you can build one at home! When you attend, you'll have the opportunity to sign up for a 30-minute consultation where you'll work one-on-one with a Rutgers engineer and landscape architect to plan a customized rain garden for your property.

Participants who build a rain garden as part of this program may be eligible for a rebate of \$3/square foot up to \$450. Rebate availability may vary.

Qualifying homeowners are residents of the following areas: 08332, 08361, 08360, 08320, 08310, 08323, 08353, 08098, 08043, 08048, 08055, 08068, 08088, and 08318.

Workshops as part of the Landscape Makeover Program are open to all, regardless of rebate eligibility.

April 6, 2022, Two Sessions: 12:00 PM & 7:00 PM

Click to [Register](#) for the 12:00 PM session.

Click to [Register](#) for the 7:00 PM session.

**Signing into a webinar:** Click the hyperlink to your chosen webinar on the date and time that the webinar is scheduled for. Then follow the prompts to run WebEx and log in to the webinar. Enter the meeting number and meeting password when prompted to.

2022 NEW JERSEY

# SUSTAINABILITY SUMMIT



**JUNE 24, 2022**  
**8:00AM - 4:00PM**  
BELL WORKS, HOLMDEL NJ

**Register & Learn More:**  
[bit.ly/SustainabilitySummit-22](http://bit.ly/SustainabilitySummit-22)

**Tickets:**  
**\$38** Elected & Appointed Officials,  
Public & Non-Profit Employees, and  
Green Team Volunteers  
**\$125** All other attendees

## Empowering Change

The Sustainability Summit is a unique opportunity for change-makers across political, private and public sectors to connect on the most pressing issues facing our communities, from addressing the climate crisis and identifying the hidden impacts of health, to using food "waste" to combat food insecurity and overcoming racial and social bias, and more.

Join us for an inspiring day of networking and learning that will equip you with fresh ideas and new partners.

*\*All registrants will be required to attest to their full vaccination upon registering. If not fully vaccinated, individuals will be required to obtain a negative COVID test within 72 hours of the event. Masks are recommended. More info at [bit.ly/SustainabilitySummit-22](http://bit.ly/SustainabilitySummit-22).*

## EVENT HIGHLIGHTS

**NETWORK** with mayors, municipal and school district staff, environmental commission and green team members together with state agency and non-profit employees, academics and businesses. Cash bar happy hour following.

**SUSTAINABILITY EXHIBIT**  
Meet the businesses, organizations and agencies that can help you achieve your sustainability efforts. Bring new solutions back to your community.

**EV RIDE & DRIVE**  
Check out the latest in electric vehicles from dealers across the region. While you are at it, take one for a drive!

**13 BREAKOUT SESSIONS**  
Engage in a day of lively discussions around the future of sustainability at sessions providing a chance to learn new skills and strategies for implementing actions and digging deeper into existing tools from Sustainable Jersey and partner organizations. Get the full session listing at [bit.ly/SustainabilitySummit-22](http://bit.ly/SustainabilitySummit-22).

**Connect with Us:**  
**#NJSustainabilitySummit**



DONATE TO THE WATER RESOURCES PROGRAM



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

Connect with us

