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Water Resources Program
New Jersey Agricultural Experiment Station

Sea Grant
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From Learning to Action

How Green Infrastructure Champions Turned Community Education into On-the-Ground Solutions

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STORMWATER PROBLEMS IN NEW JERSEY

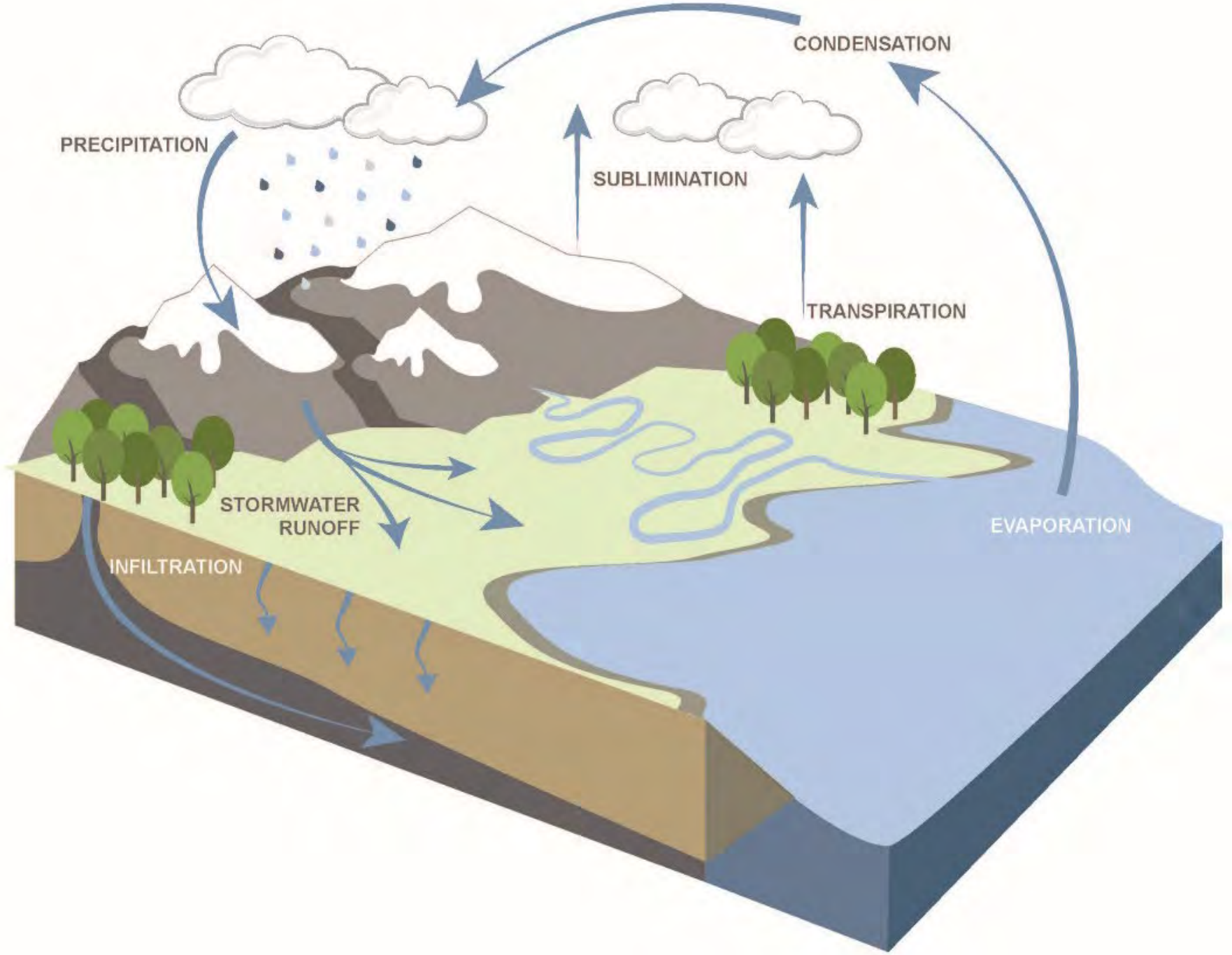
New Jersey

- Most densely populated state
- 21 counties, 565 municipalities
- 95% of our waterways are impaired
- 21 Combined Sewer Communities
- Harmful Algal Blooms (HABS) in many of our lakes
- Hammered by Ida, Henri, Sandy, and a bunch of nor’easters
- Climate change is real – more severe storms and sea level rise

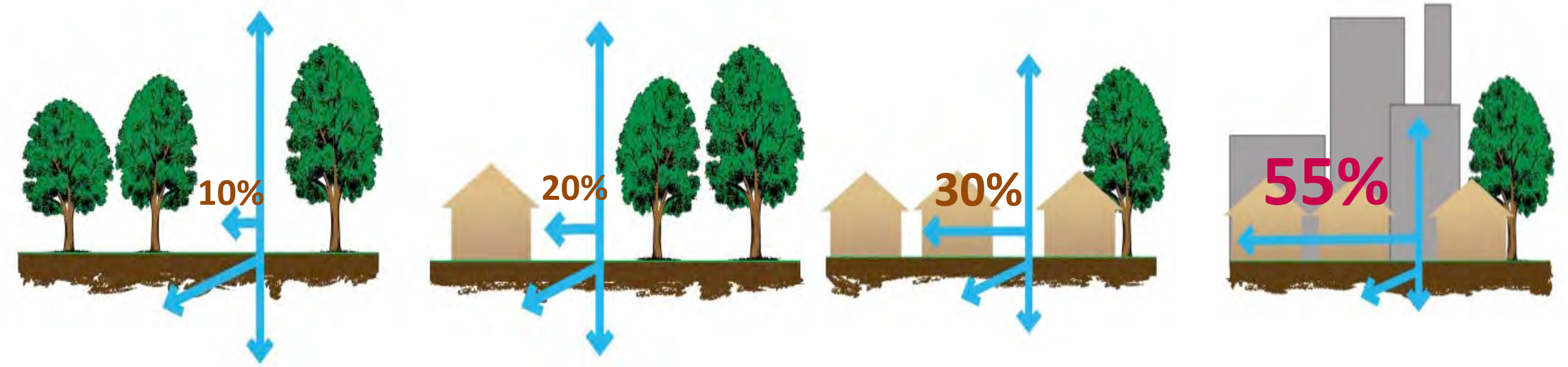
What is stormwater?

Stormwater is the water from rain or melting snow that can become "runoff," flowing over the ground surface and returning to lakes and streams.

The Natural Hydrologic (Water) Cycle

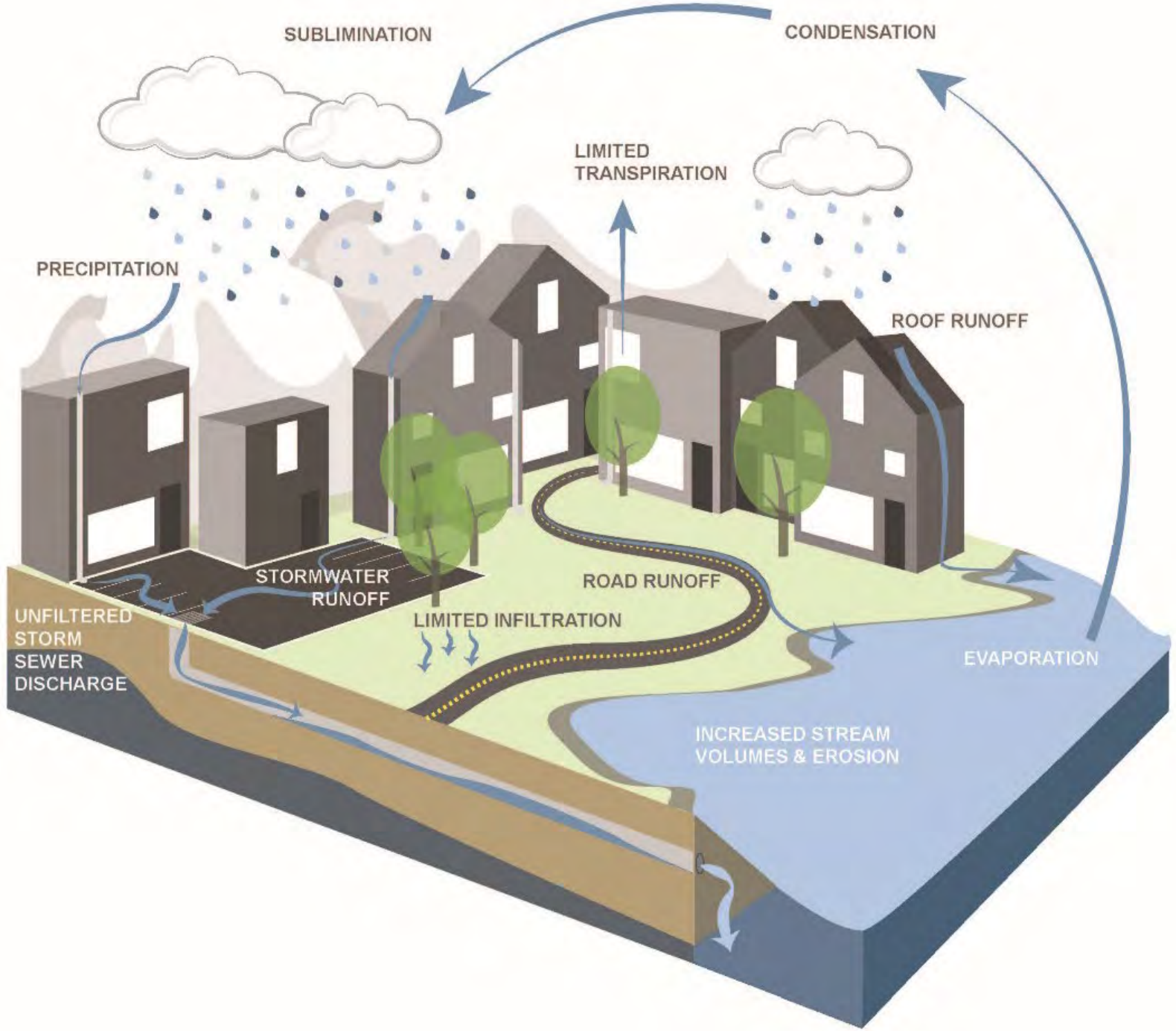


The Impact of Development on Stormwater Runoff



More development → *More impervious surfaces* → *More stormwater runoff*

The Urban Hydrologic (Water) Cycle



Examples of Nonpoint Source Pollutants

- Oil and grease from cars
- Fertilizers
- Animal waste
- Grass clippings
- Septic systems
- Sewage leaks
- Household cleaning products
- Litter
- Agriculture
- Sediment

Insight to current problem

- Stringent stormwater regulations on new development has not improved water quality
- We must retrofit existing older development with stormwater management to improve the health of our waterways and reduce flooding
- Green infrastructure is a great tool to retrofit existing older development

GREEN INFRASTRUCTURE IN NEW JERSEY

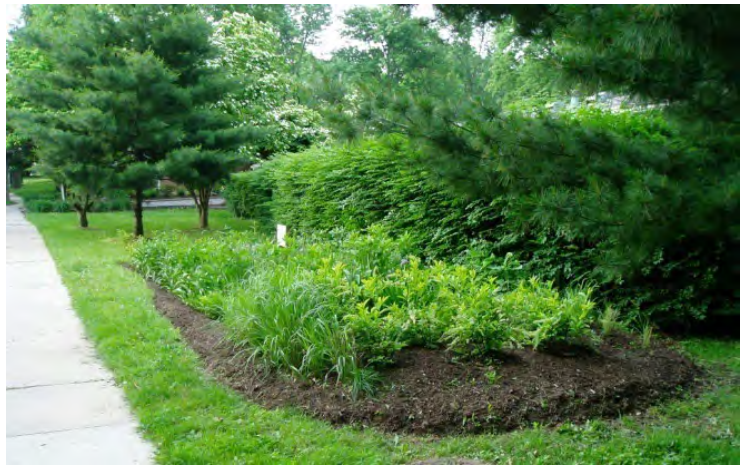
Green infrastructure is ...

…an approach to stormwater management that is cost-effective, sustainable, and environmentally friendly.

Green infrastructure projects:

- capture,
- filter,
- absorb, and
- reuse

stormwater to restore the natural water cycle.



Green Infrastructure

Stormwater management practices that protect, restore, and mimic the native hydrologic condition by providing the following functions:

- Infiltration
- Filtration
- Storage
- Evaporation
- Transpiration

Green Infrastructure Practices

Bioretention Systems

- Rain Gardens
- Bioswales
- Stormwater Planters
- Curb Extensions
- Tree Filter Boxes

Permeable Pavements

Rainwater Harvesting

- Rain Barrels
- Cisterns

Dry Wells

Rooftop Systems

- Green Roofs
- Blue Roofs








HOW GREEN INFRASTRUCTURE CHAMPIONS TURNED COMMUNITY EDUCATION INTO ON-THE-GROUND SOLUTIONS

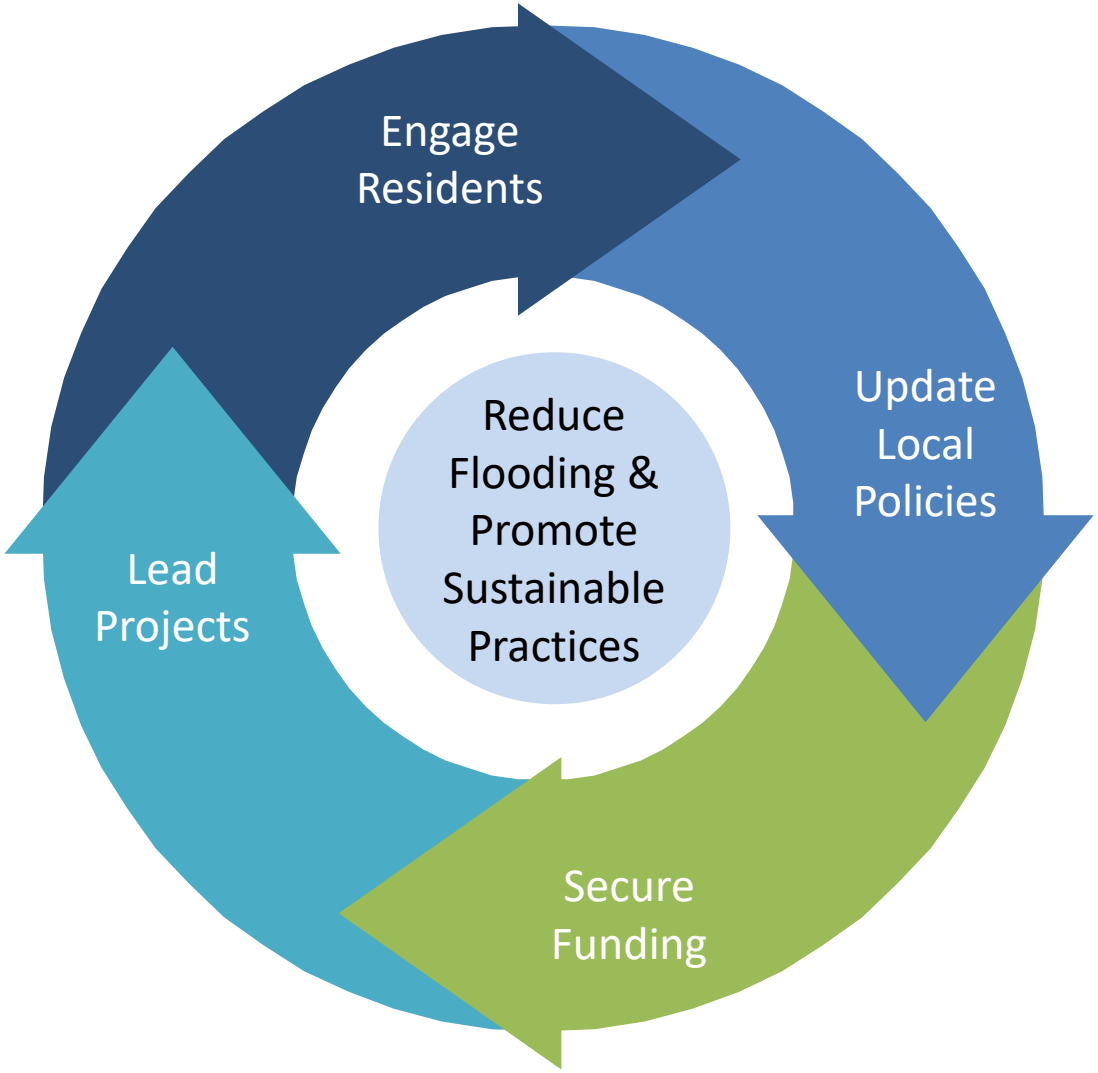
Stormwater management requires local input for successful implementation

Green Infrastructure Champions Program (2019–Present)

- 905 individuals have been trained as Green Infrastructure Champions *(many participate multiple times as a refresher)*
- 149 participants have come from outside New Jersey
- Representation spans all 21 counties across New Jersey

Green Infrastructure Champion

Green Infrastructure Champions are key players in implementing green infrastructure as a stormwater management approach in their community.



Rutgers input to the Green Infrastructure Champion Program

- Training classes on green infrastructure planning and implementation
- Technical support for demonstration project design
- Networking with fellow Green Infrastructure Champions
- Grant writing guidance and support

Short-term results/impacts

- Learn green infrastructure practices and planning
- Develop skills to engage and advocate in your community
- Identify and secure funding opportunities for green infrastructure

Long-term results/impacts

- Green infrastructure practices widely implemented
- Standard practice for stormwater management
- Reduce localized flooding
- Water quality improves
- Increase community resilience

Institutional Expertise Cascades into Individual Residential Resilience

Training a single local leader unlocks access to an entire watershed of residential properties.

Faith Teitelbaum and the Whale Pond Brook Association

As a native of Long Branch and a trained Green Infrastructure Champion, Faith utilized her network within the Whale Pond Brook Association to initiate grassroots initiatives. She has been an important link between the RCE Water Resources Program and her local community.

https://restorethewatershed.net/

A timeline provides momentum for projects

Step 1: Community Education Session

- Faith organized her neighbors to learn the basics of green infrastructure and stormwater management
- On September 18, 2024, a Homeowner Rain Garden presentation was offered at the Long Branch Township Senior Center in Monmouth County

Step 2: Design Workshop

- The RCE Water Resources Program team returned on September 25, 2024, for an in-person rain garden design session with homeowners at the Long Branch Senior Center
- 8 homeowners received custom rain garden designs for their homes
- Local Green Infrastructure Champions came to learn how to design rain gardens from one of our engineers, and also learned about plants and plant placement from one of our landscape architects
- Faith was instrumental to the success of these events by securing the venue and playing a key role in outreach and participant engagement

Step 3: Expanding the Training to Others

- On Tuesday, September 30, 2025, twelve Green Infrastructure Champions and Long Branch residents gathered at the Long Branch Free Public Library for a hands-on workshop
- During this presentation, participants were guided through the entire process of designing a homeowner rain garden from site selection to long-term maintenance planning
- The group was looking forward to the next phase, where Green Infrastructure Champions would partner with a Long Branch homeowner to install a rain garden

Step 4: Installation- Shovels Hit the Ground

- RCE Water Resources Program partnered with Green Infrastructure Champions for a hands-on rain garden installation on Saturday, October 18, 2025, in Long Branch at a homeowner's property
- The project was based on the design from the September 2024 workshop. The rain garden was designed to capture runoff from a 232 sq. ft. rooftop into a 60 sq. ft., 6-inch-deep rain garden

Installation included connecting a downspout to direct stormwater into the rain garden

Team collaborated on site prep, including sod removal and excavation

Step 4: Installation- Shovels Hit the Ground

- Champions gained practical installation skills and real-world experience
- The final result supports stormwater management, reduces flooding, and enhances property aesthetics

Step 5: Community Coming Together

- Green Infrastructure Champions and Long Branch Green Team members came together to build other homeowner rain gardens in the Whale Pond Brook Watershed, all led by Faith

Step 6: Taking Self-Initiative

- Participants from the September 2024 homeowner design session applied what they learned
- Homeowners received customized rain garden designs from RCE Water Resources Program staff
- Individuals independently installed their own rain gardens
- Efforts contributed to improving the Whale Pond Brook Watershed
- This action demonstrates empowerment through education and community driven action

Kate has already seen benefits from her rain garden, sharing this testimonial just weeks after installation:

"Even with all this rain, no water in my basement. The back garage seems to be much drier as well. I had magnolia blooms, but now the Black Eyed Susans are blooming."

Community resilience begins when education ends and a shovel is in the ground

By combining the technical background and support from the RCE Water Resources Program with the localized passion of leaders like Faith Teitelbaum, we can move communities from abstract learning to concrete action

Faith and Chris in front of her own homeowner rain garden

Thank You!

For more information, contact Chris:

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