Helping Municipalities Manage Stormwater & Meet State & Federal MS4 Requirements

Heather Fenyk, Ph.D., AICP/PP
Lower Raritan Watershed Partnership

The LRWP listens to your stormwater management needs!
Per federal regulations, each municipal stormwater program must address 6 Minimum Control Measures (MCMs) that are considered essential for successfully reducing stormwater pollution:

1. **Public Education & Outreach**
2. Public Participation and Involvement
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Stormwater Management in New Development and Redevelopment
6. Pollution Prevention and Good Housekeeping for Municipal Operations and Maintenance

The LRWP is prepared to assist Lower Raritan municipalities meet their **Public Education & Outreach MCM**:

- We work in partnership with our communities to implement at least 12 E&O points focused on improving public awareness of causes of stormwater pollution & on the stormwater ordinances that help improve water quality in municipal waterways
About the Lower Raritan Watershed & the Lower Raritan Watershed Partnership

Restoring the Raritan through Stewardship & Science

The Lower Raritan IS Central New Jersey!

Part of the NY/NJ Harbor Estuary, the 352 square mile Lower Raritan Watershed is under the jurisdiction of 54 municipalities and 4 counties.

The LRWP vision:
A healthy Raritan River and Lower Raritan Watershed community, restored and sustained through collaboration, participatory science, and stewardship.
A (Lower Raritan) watershed perspective on stormwater management & water quality / water quantity impacts

Taking a big picture view to stormwater management & watershed health

Photo credit: Alison M. Jones, with thanks to Light Hawk LLC

CONTEXT
- Understanding human & environmental health risks
- Water quality monitoring & reporting: to inform communities of risks and to track changes and trends over time

ACTION:
- MS4 program support to municipalities for Education & Outreach
- #lookfortheriver: support new interactions between people, the built environment and the natural landscape
Nonpoint source pollutants carry litter & disease-causing pathogens into our stormwater infrastructure

...ruining our special places
Image: Trash in the Green Brook

Poor stormwater management leads to wet basements and dangerous flooding conditions

Image: Flooding on Joyce Kilmer Avenue in New Brunswick after a .5 inch rainstorm, August 10, 2022

...polluting our drinking water
Image: algae-covered pond at Duke Farms, 2018

...putting other infrastructure at risk of failure
Image: 30-foot Sinkhole on George Street in New Brunswick (2018)

...and killing our fish and wildlife
Image: fish kill in South Amboy, 2018

Image: South Amboy Sinkhole (Police photo, 2015)
Water quality monitoring & reporting:
Making the link between water quality and stormwater management

Every week during summer months the LRWP and partners sample water at sites along the Raritan River to test for disease causing pathogens carried by stormwater and other sources.

We test for fecal contamination and presence of Enterococcus bacteria.

We communicate our findings in multiple formats and in English, Spanish, and via symbols recognizable for non-English / Spanish / verbal populations.

And we work to: 1) identify genetic source of pathogens; and 2) track down upstream causes of contaminants.

https://tessera.rutgers.edu/rrho/

www.lowerraritanwatershed.org
Understanding water quality impacts: How does Enterococci end up in our waters?

Sources of fecal contamination:
stormwater runoff, broken sewer lines, Combined Sewer Overflows (CSOs), animal waste

*If we know the source, we can address the problem!*
Taking Action to Address Water Quality Issues: 2022-2025 Monitoring & Outreach Goals

- Pathogens sampling at non-bathing public access beach sites & reporting
- Continue partnership w/ EPA for transect sampling and genetic source trackdown
- “Ground truthing” by kayak of failing sanitary sewage infrastructure/stormwater infrastructure
- MS4 Stormwater Management Assistance: making link between water quality, land use decisions, and policies

Outfalls in New Jersey, NJDEP MS4 Inventory and Mapping

Taking Action on Stormwater: A multi-pronged approach to fishable, swimmable waters

MS4 program support to municipalities for education & outreach:

- General Public Outreach
- Target Audience Outreach
- School/Youth Education & Activities
- Watershed Regional Cooperation
- Community Involvement Activities

https://www.hpboro.com/departments/water-sewer/stormwater-management

https://www.youtube.com/watch?v=a1pGUwBf8-w

Mile Run Brook: the music video!

https://www.youtube.com/watch?v=20Gjw8-w

Storm drain mapping with New Brunswick youth

Water quality monitoring & identification of interventions:
Convergence of stream flow (Highland Park’s Mill Brook).

Note sedimentation on left - direct flow from culvert.
Note clearer stream on right - flow through forested buffer.
#lookfortheriver

#lookfortheriver: new interactions between people, the built environment and the natural landscape

- Boyd Park FRAME, crowdsourcing data about the landscape
- mapping our historic buried and culverted streams
- training on how to read a topographic map, identify watersheds & find hidden streams
- Rock Dance Collective choreographed work envisioning the reemergence of our buried streams
- “The Run Off” collaborative public stormwater flows performance planned for 2023
NEW 2023 MS4 Requirements:

- Dedicated stormwater education & outreach webpage
- MS4 Infrastructure GIS Mapping
- Tree Ordinance & Salt Storage Ordinance
- Watershed Improvement Plan

THANK YOU!!

WE ARE YOUR MS4 PARTNER!

https://lowerraritanwatershed.org/