

# Water Pages

Winter 2004  
Edition

*A Quarterly Newsletter Produced by the Rutgers Cooperative Extension Water Resources Program: Creating Solutions for Water Quality Issues in NJ*

## Meet Our Team of Experts



**Dr. Christopher Obropta, P.E.** has experience in watershed restoration, wasteload allocations and TMDL Studies, stormwater management, wetland design, and coastal modeling.



**Lisa Galloway Evrard** has a background in aquatic biology, water quality modeling, statistical data analysis, and education.



**Sandra Goodrow** has experience in the development of Regional Stormwater Management Plans, as well as hydraulic and hydrologic modeling for watershed studies.



**Fran Varacalli** has extensive experience in working with municipal governments in improving water resource management, as well as Phase II requirements at the national level.



**Katie Buckley** is a Geographic Information Systems (GIS) expert and has extended these capabilities to improve watershed and stormwater management planning. Ms. Buckley also has experience in stream restoration.

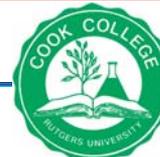


**Matin Chowdhury** is a Ph.D. candidate in the Environmental Science Department evaluating NPS Phosphorus dynamics from nurseries in the Upper Cohansey River watershed.

### RECENT APPEARANCES

Jan. 11-14, 2004, USDA/CSREES National Water Quality Conference: Dr. Obropta presented "Evaluating Point-Nonpoint Source Pollutant Trading Opportunities in EPA Region 2"; Ms. Buckley presented "Assessing Watershed Health Using the USDA Visual Stream Assessment Protocol"; Ms. Galloway Evrard participated in the Poster Session with "Stormwater Management in Your Own Backyard".

February 2-4, 2004, NJ State Agricultural Convention: Dr. Obropta presented at the AFO/CAFO Workshop and presented at the general session about his on-going water quality research.



## K-12 Environmental Education at the EcoComplex

The Water Resources Program has initiated a new program aimed at enhancing the existing environmental education program at the EcoComplex, The Environmental Research and Extension Center of Rutgers University located in Burlington County, Columbus, New Jersey. The program will combine the existing environmental education program at the EcoComplex with a new water resources component which offers students a unique place to learn about current environmental issues affecting New Jersey.

Through interactive hands-on activities students will learn about the critical role of water in their lives and its importance in New Jersey. Students will tour the state-of-the-art landfill at the Burlington County Resource Recovery Complex where they will get a glimpse of where their garbage ends up. In addition, students will visit the Burlington County Research and Demonstration Greenhouse, the only place where Jersey Fresh Tomatoes are grown year round. Incorporating various leading environmental curriculum lesson plans that meet the New Jersey Core Curriculum Standards for Science, students will gain a new understanding of New Jersey's environmental issues from this one of a kind opportunity. The program is geared to students in grades K-12 and is open to any school in New Jersey that is interested in participating. For more information about the program, contact Fran Varacalli at 732-932-9082 or at [fvaracalli@envsci.rutgers.edu](mailto:fvaracalli@envsci.rutgers.edu).

**ECOCOMPLEX**  
Rutgers Environmental Research & Extension Center  
Educational Opportunities • Economic Development

## **New Stormwater Management & Permitting Rules Signed into Effect**

In an effort to address the mounting concerns regarding impaired waterways and safe drinking water in New Jersey, Governor James McGreevy signed a new set of stormwater management rules into effect on January 5th of this year. Called some of the most protective and inclusive of any state's rules, they are the first update to the original adoption of New Jersey's Stormwater Rules since 1983. McGreevy was quoted as saying: "These stormwater rules are the most comprehensive set of water protections in the nation—no other state has required statewide 300-foot buffers around its high quality waters. They will prove to be a critical tool in our fight against sprawl." With point discharges of effluent strictly regulated, it has become apparent that addressing water quality criteria would require mitigating nonpoint source pollution that is brought into our waterways via stormwater runoff.

The first set of the new rules is directed toward new development and provides the foundation in which to develop municipal and regional stormwater management plans. The effect will be noted in the requirements of several state issued permits, such as the freshwater wetlands and stream encroachment permits. The second set of rules will require municipalities, large public complexes such as hospitals, and highway systems to obtain NJPDES permits for their municipal separate storm sewer systems (MS4). These permits require the municipality or large public complex to develop, implement and enforce a stormwater program that protects water quality from these discharges.

According to Section 7:8-2.2 of the Stormwater Management rules, the goals of stormwater management planning include reducing flood damage, minimizing any increase in stormwater runoff from any new development, reducing soil erosion from any development or construction project and protecting public safety

through proper design and operation of stormwater management basins. Provisions also address the need to maintain groundwater recharge. For new development, a goal of preserving 100 percent of the average annual groundwater recharge has been set. The use of Best Management Practices (BMP's) will be the key in achieving this goal.

One highly significant aspect of the rules is the requirement of a 300 foot buffer around all Category 1 (C1) bodies of water. In the effort to protect critical drinking water, designation as a C1 status gains the highest water quality protection afforded in the state. The buffer would also be required on certain tributaries to C1 classified water bodies. It is expected that over 6,000 miles of streams will be covered by this provision to protect NJ's most sensitive waters.

Major development will be subject to the stormwater management requirements in effect on February 1, 2004, unless other permits have already been obtained (N.J.A.C. 7:8-1.6). Municipalities will need to adopt a municipal stormwater management plan as an integral part of its master plan and official map by either the deadline established in a NJPDES permit for a municipal separate storm sewer system, or by the next reexamination of the master plan (7:8-4.3). Compliance with these rules is expected to reduce the percentage of New Jersey waterways that are currently classified as impaired, as well as protect our drinking water resources. For more information about the new stormwater rules, contact Sandra Goodrow at 732-932-9011 or [sgoodrow@envsci.rutgers.edu](mailto:sgoodrow@envsci.rutgers.edu).

### **LOG ON**

CSREES Regional Water Quality Coordination Program for EPA Region 2  
<http://rwqp.rutgers.edu/>

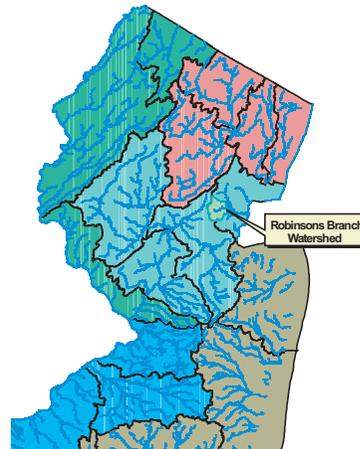
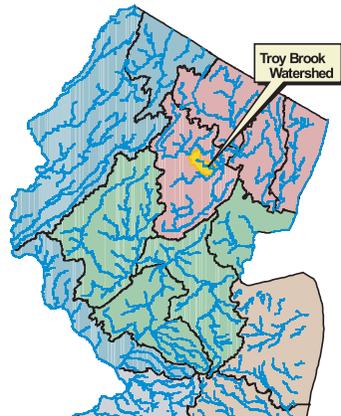
New Jersey Department of Environmental Protection Stormwater and  
Nonpoint Source Pollution  
<http://www.njstormwater.org/>

NEMO: Nonpoint Education for Municipal Officials  
<http://nemo.uconn.edu/national/index.htm>

## Regional Stormwater Management Planning Projects

The Water Resources Program has initiated two key projects for which Regional Stormwater Management Plans will be created. These projects are based on addressing the concerns of the new Stormwater Management rules (N.J.A.C. 7:8) that were signed into effect in January of 2004. The Regional Stormwater Management Plans (RSMP's) will focus on specific concerns regarding water quality and water quantity in local NJ subwatersheds.

One project area concerns Troy Brook, which is located in the Whippany River watershed. Located in a highly urbanized area of NJ, the Troy Brook received one of the first Total Maximum Daily Loads (TMDLs) in the state. Impaired for fecal coliform, the Troy Brook must find a way to reduce fecal coliform levels by 58%. In addition to the water quality issues, the volume and rate of stormwater runoff has increased due to continuing development resulting in significant flooding in the watershed and the degradation of the Troy Brook.



considerable commercial and industrial properties. Thus, flooding has become an important matter to

tackle. This area also contains two impoundments, the Clark Reservoir and Milton Lake, which are impacted by sedimentation and a large local population of geese. At this point, it appears that very few Best Management Practices (BMPs) are in place to mitigate these water quality and water quantity challenges.

The Water Resources Program has secured the funds necessary to develop effective RSMPs to address water quantity and water quality concerns for these areas. To complete the RSMPs, a characterization and assessment of the drainage area will be performed which will include, as needed, detailed hydrologic, hydraulic and water quality modeling. The final RSMPs will include recommendations on the most appropriate methods of mitigating concerns. Along with public education and outreach, these recommendations will ultimately be transferred to municipal, county and state officials for anticipated implementation. For more information about these projects, contact Sandra Goodrow at 732-932-9011 or [sgoodrow@envsci.rutgers.edu](mailto:sgoodrow@envsci.rutgers.edu).

A second project focuses on an area known as Robinson's Branch in the Rahway River watershed. Currently, the NJDEP is developing a TMDL for fecal coliform in Robinson's Branch. Since no point sources discharge to this waterway, it is expected that the TMDL will require significant reductions in nonpoint source pollution. This watershed is of a highly impervious nature, containing major transportation arteries, and



## Stormwater Management in Your Own Backyard

A public education and outreach program on stormwater management has been developed by the Water Resources Program to help residents disconnect impervious surfaces (e.g., roofs and paved driveways) from running off directly into waterways and storm sewer systems, thereby reducing stormwater runoff peak flows, promoting groundwater recharge, and removing pollutants. This program has initially been targeted at the Master Gardeners, many of whom have requested more training on environmental issues, but the program appeals to a broad range of stakeholders. A few years ago, the NJDEP launched a statewide watershed initiative that included the formation of Public Advisory Committees (PACs) for each of the twenty watershed management areas in the State. Over the last year, these PACs have been slowly dissolving due to NJDEP reallocation of resources leaving these PACs without leadership or direction from NJDEP. Many of these PACs have highly motivated people who are eager to work to improve the water quality in the State. This program provides an opportunity for the disenfranchised PAC participants to gain training and participate in implementing projects both locally and on a watershed basis.

The program consists of four lectures: 1) Stormwater Runoff – Processes and Impacts, 2) The Basics of Stormwater Best Management Practices (BMPs), 3) Design and Construction of BMPs, and 4) Monitoring and Maintenance of BMPs. In addition to the lectures, the participants are required to provide in-kind service. This service provides them an opportunity to actually help construct the BMPs and monitor their pollution removal effectiveness. This program has the potential to create a nonpoint source work force to enhance voluntary implementation of stormwater BMPs that are needed for the State to attain water quality criteria in the impaired waters of the State. The Water Resources Program introduced the program to the Middlesex County Master Gardener Program on February 27, 2004 and was a great success. A training event is currently being planned for early April to present the program to all the Master Gardener Program Coordinators across the State. For more information, contact Lisa Galloway Evrard at 732-932-2739 or [evrard@rci.rutgers.edu](mailto:evrard@rci.rutgers.edu).



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