



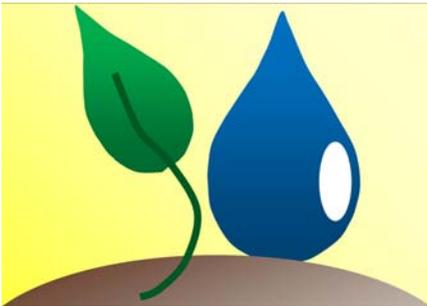
Green Knight newsletter



News of Environmental and Resource Management Issues and Events
from throughout New Jersey

Volume 1, Issue 3

November 2010



Rutgers Cooperative Extension
Environmental and Resource
Management Agents

An Introduction to Permeable Pavement

Amy Rowe, Environmental and Resource Management Agent, Rutgers Cooperative Extension of Essex and Passaic Counties

Permeable pavement is a system that allows rainwater and runoff to move through the pavement's porous surface to a storage layer below. The surface can be made of pervious concrete, porous asphalt, or interlocking concrete pavers. Pervious concrete and porous asphalt are made with traditional batch mixes, except that the fine particles have been removed from the mix to allow for the formation of voids. These systems are ideal for parking lots, driveways, alleys, sidewalks, and playgrounds. It has been shown by decades of scientific research that permeable pavements reduce runoff volumes.

Research has also shown that the stormwater that flows through the layers of a permeable pavement system is filtered as it progresses, improving the water quality of the runoff by removal of solids and other

[...An Introduction to Permeable Pavement continued on page 2 →](#)

Introducing Amy Rowe

Environmental and Resource Management Agent for Essex and Passaic Counties

Amy Rowe is the Rutgers Cooperative Extension Environmental and Resource Management Agent for Essex and Passaic Counties. Recently, she has made several appearances at fall festivals and green fairs to teach people about stormwater management. Her current work includes aiding with the implementation of the Molly Ann Brook watershed management plan and serving Passaic River citizen action groups. Amy is interested in green infrastructure and hopes to encourage municipal use of these low impact development techniques.



Inside this issue:

Permeable pavement	1
Essex and Passaic Counties Environmental Agent	1
Expired marine flares program	3
Canada goose population reduction	4
Energy & Environmental Resource Center in Salem	5
Rutgers Professional Science Masters Program	6
Upcoming events	7

[An Introduction to Permeable Pavement continued from page 1.](#)

contaminants. Another advantage of permeable pavement is that the surface does not store heat the way that traditional pavement does, leading to a mitigation of the urban heat island effect and providing cooler night temperatures relative to conventional asphalt.

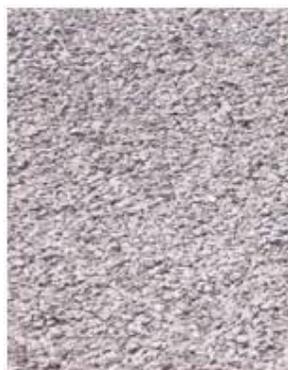
Permeable pavement has many advantages over traditional pavement, and several of those benefits make permeable pavement ideal for urban areas. The stormwater volume that can be handled by permeable pavement systems is important for urban areas with combined sewer systems or at-capacity water treatment plants that are looking for ways to reduce flows. These systems can contribute to the reduction of combined sewer overflows with the disconnection from the city's stormwater infrastructure, while removing the threat of ponding or flooding at the onsite installation. The filtered water that has moved through the system's layers can either be infiltrated to the native soil

to recharge the groundwater or it can be collected and re-used in community gardens or landscaping installations.

Permeable pavement can also be an important tool for urban areas because it can be installed as a retrofit and can reduce the impervious area footprint of an existing traditional pavement. This type of system not only reduces impervious cover, but it also reduces the need for conventional stormwater

management methods such as detention basins and connections to the sewer system. This can potentially allow expensive city real estate to be used for more beneficial purposes such as extra parking or more building space.

Some urban municipalities are hesitant to install permeable pavement due to the higher upfront cost compared to traditional asphalt pavement and the perceived notion that the systems are "unproven". However, if the long-term benefits and longer pavement lifetimes are considered along with the wealth of scientific research on the topic, permeable pavement can be cost efficient, better for the environment, and put less of a burden on the city's stormwater infrastructure.



Pervious concrete
(Photo: US EPA, 2010)



Porous asphalt



Interlocking concrete pavers



A demonstration showing how quickly pervious pavement can handle flow. This pervious concrete drained 2,000 gallons of water in less than 3 minutes with no runoff. (Photo: US EPA, 2010)

Expired Marine Flare Pilot Provides Relief to Boaters

Cara Muscio, Marine Extension Agent, Rutgers Cooperative Extension of Ocean County

Rutgers Cooperative Extension held an expired flare disposal event at the Jersey Shore Boat Expo in September 2010. Over 600 flares were collected from residents of Ocean, Monmouth, Middlesex, and Mercer counties. The boaters were happy to have somewhere to take these expired explosives, and brought in between 3 and 60 each. The oldest flares recorded were from 1965 and 1972, although most of the flares expired in the 90s and early 2000s. After much deliberation about disposal options, the flares were transported as hazardous waste to an out of state incineration facility.

Recreational boating has been estimated to bring nearly \$2 billion dollars annually to the economy of New Jersey. As of 2006, there were approximately 176,000 registered boats in the state. Boats utilizing coastal waters, or connected waterways are required to carry visual distress signals on board for emergency purposes. Marine flares are the most commonly used type of device, and have an expiration date of 42 months from manufacture.

The problem lies in how to dispose of the flares after expiration. Manufacturers recommend donating them to the Coast Guard, but they may not always be accepted. Because they are categorized as explosives/hazardous waste, they cannot be thrown in the trash. Flares contain the chemical perchlorate, a newly identified water pollutant currently undergoing regulation federally and in New Jersey, so the old practice of soaking flares in water and then trashing them is no longer acceptable. It is illegal to set them off on or near water, and they are ultimately explosives, so keeping large quantities is discouraged. While some county household hazardous waste collection programs will accept expired marine flares, not all counties will accept them. The most up-to-date listing of counties accepting flares can be found on this [link](#).

For more information about expired marine flare disposal, please visit the Jersey Summer Shore Safety website: <http://ocean.njaes.rutgers.edu/marine/JerseySummerShoreSafety.html>.

Jersey Summer Shore Safety

Have fun, be safe, and be kind to our coastal natural resources.

Summer Safety Topics



[Seafood Safety](#)
(exit to Seafood Safety Website)



[Expired Marine Flares](#)



[Bacteria and Beaches Education](#)



[Citizen Bacterial Pathogen Monitoring](#)

Some topics included in the Jersey Summer Shore Safety program. (Photo: <http://ocean.njaes.rutgers.edu/marine/JerseySummerShoreSafety.html>).



States and Federal Government Plan to Reduce Canada Goose Populations along Eastern Flyway—But Slowly

Salvatore Mangiafico, Environmental and Resource Management Agent, Rutgers Cooperative Extension of Salem and Cumberland Counties

The U.S. Fish and Wildlife Service along with other agencies—particularly in New York State—have been developing plans to reduce the number of Canada geese in the Atlantic Flyway (which is comprised of the east coast of the U.S. and Canada.)

The immediacy of the need for more successful management of Canada goose populations was underscored by the downing of US Airways Flight 1549—which was successfully landed in the Hudson River—in 2009 caused by a bird-strike with Canada geese.

The plans have become controversial since their implementation has included the capture and euthanizing of local goose populations, with perhaps the most publicized being in Prospect Park in New York City in July 2010. These actions were part of targeted plans to reduce the goose populations surrounding JFK and LaGuardia airports.

While the plans call for large reductions in the populations of Canada geese, the New York State Department of Environmental Conservation points out that the plans express long term goals and do not rely entirely on lethal measures to achieve those goals ([NYSDEC](#)).

In some cases of goose culls in the U.S., the goose meat has been donated to food banks or zoos. But burial or other sanitary disposal is most common.

Other measures to control goose populations include hunting, treating eggs so that they're no longer viable, and habitat modification to make nesting sites less attractive to geese ([USDA-WS](#)).



Canada geese paddle on Memorial Lake in Woodstown, NJ. (Photo: Sal Mangiafico, Rutgers Cooperative Extension).



[...States and Federal Government Plan to Reduce Canada Goose Populations continued on page 12 →](#)

PSEG's Energy & Environmental Resource Center in Salem, NJ

Lisa Barile, Stakeholder Outreach Specialist, PSEG Energy & Environmental Resource Center

Opened in January 2010, PSEG's Energy & Environmental Resource Center (EERC) in Salem, NJ is a new learning center focused on building a greater understanding of energy, environmental challenges and strategies for balancing energy demand with environmental stewardship. Educational exhibits explore the impact of technology, lifestyle, and public policy on energy consumption and the environment and challenge visitors to consider their own energy use and carbon footprint.

The facility includes 6,000 square feet of hands-on, interactive exhibits, as well as a multi-purpose room, classroom and wet lab that are available for community use free of charge. PSEG also provides classroom and laboratory space for Salem Community College's Nuclear Energy Technology program at the EERC.

The building achieved Gold-level LEED certification (U.S. Green Building Council, Leadership in Energy and Environmental Design, [link](#)), by implementing design and construction techniques to improve energy savings, water efficiency, and reduced carbon dioxide emissions. Ten percent of the building's power is supplied by a rooftop solar array and an on-site wind turbine.

Read more about the EERC on the PSEG press release ([link](#)). Tours are available by appointment. For more information or to schedule a visit, call 856-339-3372. The EERC is located at 244 Chestnut Street, Salem, New Jersey.



One view of the exhibit space at the PSEG Energy & Environmental Resource Center. (Photo: PSEG).

Building New Jersey's Innovation Ecosystem: Rutgers Professional Science Master's Program

Deborah Silver and Aleta You, Rutgers Professional Science Master's Program

The vitality and competitiveness of the New Jersey and U.S. economies depend on a steady stream of scientific and technological innovations and the development of an exciting and energetic *innovation ecosystem*. Fostering this new ecosystem requires a collaborative partnership among universities, business, and government. Founded by David Finegold, professor and Dean of the School of Management and Labor Relations, and directed by Deborah Silver, professor of electrical and computer engineering, the Professional Science Master's program at Rutgers University offers a Master of Business and Science (MBS) degree with a concentration in science, mathematics, or engineering. Today, U.S. businesses need workers who not only possess up-to-date knowledge in their fields, but also have multidisciplinary entrepreneurial skills that can translate scientific and technical knowledge into profitable products and services.

The Professional Science Master's Program at Rutgers is a combination of an MS and MBA degree. The degree comprises 43 credits, with up to 24 credits in the sciences, engineering, or mathematics and 19 credits in business. There are over 20 concentrations to choose from in areas such as urban environmental analysis and management, sustainability, and biotechnology and genomics. Uta Krogmann, associate professor and extension specialist in Solid Waste Management and coordinator for the sustainability concentration states that the MBS degree "is a great choice for students who want to get more depth in science and engineering, but want to apply their knowledge in a business setting. This degree allows students to get one instead of two graduate degrees."

Applications are being accepted for the Spring 2011 semester. For further information about the program, go to <http://mbs.rutgers.edu>.



(Photo: <http://mbs.rutgers.edu>)

***** UPCOMING EVENT *****



FOREST MANAGEMENT AND STEWARDSHIP PROGRAM SERIES

Rutgers Cooperative Extension of Gloucester County
Announces the Fall Forest Management/Stewardship Program Series entitled:

“Southern Pine Bark Beetle”

Date: Wednesday, November 10, 2010

Time: 7:00 p.m.

Location: Rutgers Cooperative Extension of Gloucester County, Office of Government Services Building,
1200 North Delsea Drive, Clayton, NJ 08312

Registration: Pre-registration is required. To register (and for questions/directions), call the
Rutgers Cooperative Extension of Gloucester County at 856.307.6450.

Registration deadline is November 8, 2010

Who should attend?

Woodlot owners and anyone with an interest in forestry and/or wildlife management

Program

The program and discussions will be led by Dr. Mark Vodak, Forestry Extension Specialist, Rutgers Cooperative Extension. Topics to be discussed during this program will include the Southern Pine Bark Beetle; how to id it, problems and damage it causes, life cycle and control and it’s impact on New Jersey. There will be ample opportunity for questions and discussion.

Sincerely,

Mary Cummings
Program Associate
Agriculture and Resource Management

***** UPCOMING EVENT *****



Stream Monitoring Workshop

Do you go freshwater fishing? Do you go to lakes and parks for recreation and swimming? Do you go canoeing? Do you enjoy nature? Are you concerned about the quality of your local streams, lakes, and sources of your drinking water? If so, please attend our **FREE** workshop on water quality issues.

The **NJ Watershed Ambassadors Program** is pleased to announce a stream monitoring workshop on November 14, 2010. The event will be hosted by Triple Oaks Nursery. All participants will be provided information on issues affecting our local streams and water quality, and trained on how to do visual and biological assessments of streams and lakes. Participants will then be able to monitor the health of their local water bodies and become volunteers for the watershed watch network.

When: Sunday, November 14th, 2010

Duration: 3 hours (1pm to 4pm)

Where: Triple Oaks Nursery, 2359 Delsea Drive, Franklinville, NJ

Cost: FREE

The event is FREE, but registration is required.

Email: watershed17@ccia-net.com

Philip Arsenault
AmeriCorps NJ Watershed Ambassador
Watershed Management Area 17

***** UPCOMING EVENT *****



NJAES and NJFB Present:



Report on Biomass Energy for NJ Farmers

Date: Thursday, November 18, 2010

Location: Rutgers EcoComplex – Columbus, NJ

Time: 8:30am – 1:30pm

Hear Rutgers research and Extension personnel showcase their current thinking about the potential for biomass crops in New Jersey. While solar and wind renewable energy have received much acclaim, biomass energy may be within the reach of more farmers. Come out and listen to a concentrated presentation on the prospects of how biomass energy might work for you. Stay after the program to meet with the speakers and participating vendors.

Topics include:

- ✓ Report on recent findings for biomass energy on farms
 - ✓ Challenges facing biomass energy on farms
 - ✓ Private sector advances in biomass energy
- ✓ Experiences with biomass on farms in NJ and PA
- ✓ Existing and potential funding sources for biomass

Register by contacting New Jersey Farm Bureau: 609-393-7163

Registration required; seating may be limited in the event of a sell-out

Coffee/Danish served at 8:30; lunch provided after the program at noon

***** **UPCOMING EVENT** *****

GREAT INFORMATION FOR EVERY LANDSCAPER AND NURSERYMAN AT SOUTH JERSEY CONFERENCE

“Great information for every Nursery and Landscape Professional” accurately describes the South Jersey Landscape Conference and Nursery Meeting on November 30, 2010. According to Bob Zentner, President of the New Jersey Nursery and Landscape Association, “this year’s conference will again be held at Masso’s Crystal Manor in Glassboro, NJ”. Said Mr. Zentner, “we have a well balanced, all-day program with new ideas for everyone in the plant business”.

NJ Secretary of Agriculture Douglas Fisher will kick off the program at 9:05 a.m. with an update on activities of the NJDA pertinent to the ornamental plant business. A panel discussion by key members of the nursery, garden center and landscape business will focus on current market trends. The group led by Suzanne Van Sciver will feature nurserymen Ed Overdeve; garden center operator, garden writer Lorraine Keifer; and landscaper Doug Kale. Dominic Mondì from NJNLA will discuss major state and federal regulations and legislation. Marcus VanderVliet of MV Consulting will focus on advising growers and landscapers on “Struggling with Your Cash Flow in Hard Economic Times”. Pat Hastings at Rutgers NJAES will share the latest information on Pesticide Safety Regulations in the morning session for both groups.

The afternoon will be broken into two concurrent sessions according to Jerry Frecon, agricultural agent with Rutgers New Jersey Agricultural Experiment Station. One session for the landscapers will kick off with Sal Mangiafico of Rutgers NJAES discussing Stormwater Problems and Management followed by Jeff Charlesworth of Quercus Studio discussing the elements of good landscape design. Said Mr Frecon, “Dr. Ann Gould will share the latest information on plant air pollution and other environmental problems”. “A panel discussion of success and failures of snow removal will be moderated by Dominic Mondì with panelists Peter Haran, Jeff Shrock, and Darren Rafferty”, said Frecon.

The afternoon nursery session will focus on new problems and solutions in nursery insect management by Dr. Jim Lashomb of Rutgers NJAES. “New Products and Plant Lines” will be presented Gary Neinhaus, Spring Meadow Nursery, Inc. “We are also excited about having Mr. Ed Kiley from The Perennial Farms discuss Creative Marketing Programs for Nursery Stock,” stated Mr. Frecon. Laura Gladney from Rutgers Risk Management Education Program will close the nursery session with an update on nursery crop insurance.

At the conclusion of each session New Jersey Pesticide Applicator Units for Category and CORE will be given where applicable. Certified Nursery and Landscape Professional Credits will be given as well.

Preregistration is required. Registration forms and the complete program are available at <http://gloucester.njaes.rutgers.edu> or by calling Jerry Frecon at 856 307-6450 Ext 1.or Dominic Mondì at NJNLA at 800 314-4836.

The full program is sponsored by Rutgers New Jersey Agricultural Experiment Station, Cooperative Extension in Cooperation with the New Jersey Nursery and Landscape Association.

SOUTH JERSEY LANDSCAPE CONFERENCE AND NURSERY GROWERS MEETING



Tuesday, November 30, 2010
MASSO'S CRYSTAL MANOR
South Delsea Drive, Glassboro, NJ
Sponsored by Rutgers N.J. Agricultural Experiment Station Cooperative Extension in cooperation with the

New Jersey Nursery and Landscape Association

***** UPCOMING EVENT *****



Stream Monitoring Workshop

Do you go freshwater fishing? Do you go to lakes and parks for recreation and swimming? Do you go canoeing? Do you enjoy nature? Are you concerned about the quality of your local streams, lakes, and sources of your drinking water? If so, please attend our **FREE** workshop on water quality issues.

The **NJ Watershed Ambassadors Program** is pleased to announce a stream monitoring workshop on December 11, 2010. All participants will be provided information on issues affecting our local streams and water quality, and trained on how to do visual and biological assessments of streams and lakes. Participants will then be able to monitor the health of their local water bodies and become volunteers for the watershed watch network. Event will take place indoors and outdoors. A stream assessment demonstration will take place on Franklinville Lake and Little Ease Run.

When: Saturday, December 11th, 2010

Duration: 3 hours (9am to 12pm)

Where: Franklin Township Community Center, 1584 Coles Mill Road

Cost: FREE

Please RSVP for confirmation of attendance.

Email: watershed17@ccia-net.com

Philip Arsenault
AmeriCorps NJ Watershed Ambassador

[States and Federal Government Plan to Reduce Canada Goose Populations continued from page 1.](#)

References

(Please note that the pieces in the *New York Times* and *Washington Examiner* may express views that are not entirely objective, and are included if the reader wishes to further explore controversial points.)

Marra,P.P, C.J. Dove, R. Dolbeer, N.F. Dahlan, M. Heacker, J.F. Whatton, N.E. Diggs, C. France, and G.A. Henkes. 2009. Migratory Canada geese cause crash of US Airways Flight 1549. *Frontiers in Ecology and the Environment* 7: 297–301. <http://www.esajournals.org/doi/abs/10.1890/090066>

[NYSDEC] New York State Department of Environmental Conservation. Long-term Population Goals for Resident Canada Geese. 2010. <http://www.dec.ny.gov/animals/67311.html>

Orowitz, J.H. Gov officials saves human lives chasing away birds. *Washington Examiner*, 4 October 2010. <http://www.washingtonexaminer.com/local/ap/gov-officials-saves-human-lives-chasing-away-birds-104259908.html>

Raftery, I. 400 Park Geese Die, for Human Fliers' Sake. *New York Times*, 12 July 2010. <http://www.nytimes.com/2010/07/13/nyregion/13geese.html>

Raftery, I. Agencies Plan to Reduce Canada Geese Population in New York State by Two-Thirds. *New York Times*, 23 July 2010. <http://www.nytimes.com/2010/07/24/nyregion/24geese.html>

[USDA-WS] U.S. Department of Agriculture Wildlife Services. 2009. Management of Canada Goose Nesting. United States Department of Agriculture Animal and Plant Health Inspection Service, Washington, D.C. http://www.aphis.usda.gov/wildlife_damage/downloads/canada_goose.pdf

Green Knight newsletter

Editors:

Pat Rector

Sal Mangiafico

(Rutgers Cooperative Extension Environmental and Resource Management Agents)

P.O. Box 900, Morristown, NJ 07963-0900

973-285-8300 ext. 225

<http://salem.rutgers.edu/greenknight/>

rector@njaes.rutgers.edu



**Rutgers Cooperative Extension
Environmental and Resource
Management Agents**

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and County Boards of Chosen Freeholders. Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity provider and employer.

Rutgers Cooperative Extension educational programs are offered to all without regard to race, religion, color, national origin, ancestry, age, sex, sexual orientation, gender identity and expression, disability, atypical hereditary cellular or blood trait, marital status, civil union status, domestic partnership status, military service, veteran status, and any other category protected by law.