Detention basins, also known as dry ponds, or dry detention basins, are stormwater management measures that detain water for a period of time but unlike wet ponds are not designed to have large permanent standing pools of water. The purpose is to provide basic flood protection and potentially decrease erosion. Detention basins provide flood control measures during storm events by capturing and detaining storm water runoff from the surrounding area and discharging that volume of runoff slowly to the stream. Detention basins are popular in suburban developments. Typically, a standard detention basin has only moderate pollutant removal. Modern stormwater detention ba-
Rutgers Center for Urban Environmental Sustainability hosts Shaping the “City” of New Jersey conference

By Beth Ravit, Instructor, Rutgers Department of Environmental Sciences, founding member Center for Urban Environmental Sustainability (CUES)

The Rutgers Center for Urban Environmental Sustainability (CUES) invited elected officials, local governmental leaders, and representatives of non-governmental organizations (NGOs) from across New Jersey to a conference held in New Brunswick, NJ on April 16, 2010. The *Shaping the “City” of New Jersey* conference was funded by a CUES grant from the Geraldine R. Dodge Foundation. The conference had three objectives:

- to provide a showcase that highlighted the urban-suburban research and initiatives that are currently ongoing at Rutgers University, particularly on the New Brunswick and Newark campuses;
- to introduce constituencies within and outside of Rutgers to the expertise available throughout the University, and to expand the network of individuals addressing urban-suburban environmental issues;

...Rutgers Center for Urban continued on page 18 →

U.S. Senate may consider smaller cap-and-trade bill for greenhouse gas emissions

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

Issues surrounding climate change science and policy are wont to be contentious; and recent events including the leaking of internal emails from scientists at the Climate Research Unit at the University of East Anglia, findings from the government of Netherlands about errors in some Intergovernmental Panel on Climate Change (IPCC) reports, and perhaps by the awarding of the Nobel Peace Prize to former U.S. Vice President Al Gore along with the IPCC in 2007 are stirring the controversy.

Even without these recent events, one would be hard-pressed to be surprised at the news that current legislation addressing climate change, regulating greenhouse gas emissions, and proposing a cap-and-trade mechanism would

...U.S. Senate continued on page 24 →
South Jersey Non-profit Organization Addresses Local Concerns about Septic Systems
By Joe Garner and Jamie Wilson, Wastewater Eco-Charities

Wastewater Eco-Charities is a new 501(c)(3) non-profit organization, whose mission is to educate and service the septic system needs of low income households, including qualified senior citizens, veterans, disabled, and handicapped people in Cumberland, Gloucester, Salem, southern Camden, Atlantic and Cape May Counties.

One reason these services are necessary is that septic systems that are not maintained can allow waste to bypass the treatment system, allowing untreated sewage to seep into the soil or flow onto the soil surface. The continued use of improperly functioning or bypass septic systems directly endangers public health, since numerous pathogens such typhoid fever, dysentery and diarrhea may be spread by the improper treatment of human waste. Contaminated water could end up in drinking water sources, the fish we eat or the water in which we swim.

It is estimated that there are more than 53,000 households in the six southern counties of the state of New Jersey that have septic systems that threaten environmental contamination caused by untreated wastewater runoff.

AmeriCorps Watershed Ambassadors Lead Service Projects in New Jersey
By Shaina Phillips, AmeriCorps Watershed Ambassador

The AmeriCorps New Jersey Watershed Ambassador Program (NJWAP) is a community outreach and stewardship program that is hosted by the NJ Department of Environmental Protection’s (NJDEP) Division of Watershed Management. AmeriCorps is a national service initiative that began in 1993 and is also known as the domestic Peace Corps. The NJDEP began hosting the NJWAP in 2000 in an effort to educate citizens about watersheds and encourage the public to make educated decisions about water quality and water use.

Each fall a Watershed Ambassador is placed at a local host agency within each of the 20 Watershed Management Areas throughout the state of New Jersey. During their 11 month term of service, Watershed Ambassadors will make environmental education presentations to schools and community organizations, assess local rivers and streams, train volunteers and students in stream monitoring techniques, and organize and carry out community stewardship events. Some projects from the 2009–2010 term were:
The New Jersey Envirothon is an environmental education competition for high school students, developed to encourage young people to learn more about natural resources and to encourage their going on to careers in the environmental field.

This year’s competition was held in May at Camp Sacajawea in Newfield in Gloucester County. The theme for 2010 was "Protection of Groundwater through Urban, Agricultural and Environmental Planning."

Students work in teams to answer written questions based on the examination of soils, trees, aquatic specimens, wildlife specimens, and other natural resource materials. Additionally, the teams must give a group verbal presentation regarding an environmental issue, combining their knowledge of current issues and natural resources with skills in teamwork and communication.

Sponsors of the event include the New Jersey Association of Conservation Districts, the New Jersey Department of Agriculture, the Natural Resources Conservation Service, New Jersey's sixteen Soil Conservation Districts, the New Jersey Department of Environmental Protection, and Rutgers Cooperative Extension.

For more information visit http://njenvirothon.org/.

Cumberland County hosts 16th annual Environmental Fair

By Dennis DeMatte, Jr., Recycling Coordinator, Cumberland County Improvement Authority

The 16th annual Cumberland County Environmental Fair, held May 18 at the WheatonArts and Cultural Center in Millville, brought more than 375 fourth grade students, teachers and parents from Cumberland County schools together to learn about waste management and environment stewardship.

Activities for the students included:

• a recycling-themed magic show by Bill Kerwood
• several educational stations covering: school recycling collection, the Landis Sewerage Authority, WheatonArts Center, AmeriCorps Watershed Ambassador, Giordano’s Recycling, the Nature Conservancy, New Jersey Audubon Society Waste Management, the NJ Department of Agriculture, The Cousteau Center at Bridgeton, and the Bayshore Discovery Project.
• entertainment by the Red Bucket Jammers, a musical group comprised of volunteers from the Solid Waste Complex and local vendors.
• a sculpture contest and fashion show using recycled or recyclable materials.
• awards ceremony for the sculpture contest and fashion show.

For more information, contact Dennis DeMatte, Jr. at 856-825-3700.
New Jersey Water Savers: A drinking water conservation pilot program for New Jersey

A new website has been launched providing information about the New Jersey Water Savers program.

The program is a joint venture between the Rutgers Cooperative Extension Water Resources Program and program partners, the New Jersey Department of Environmental Protection Division of Water Resources and the United States Environmental Protection Agency, Region 2.

The site gives information about water conservation as well as about demonstration projects that were undertaken in partnering municipalities. Projects included retrofitting public buildings to more water-efficient fixtures and using smart controllers for home lawn irrigation.

The five partnering communities are Livingston in Essex County, Rahway City in Union County, Belmar

...Rutgers Cooperative Extension Websites continued on page 19 →

Frequently older detention basins contain a concrete low flow channel that conveys the runoff from the smaller storms directly through the basin to the stream. Given that 90% of the storms in New Jersey are less than 1.25 inches in depth, a significant volume of water passes through these basins without treatment ...

Detention basins continued from page 1

sins are frequently designed to meet several goals such as: reducing the impacts of development by mitigating increased peak rates of runoff; providing water quality treatment; and meeting stormwater recharge requirements. However, many of the existing stormwater basins in New Jersey were built prior to the mid 1980’s and provide only flood control. In addition, the soil in the bottom of these basins tends to become overly compacted during construction, which reduces infiltration. Frequently, older detention basins contain a concrete low flow channel that conveys the runoff from the smaller storms directly through the basin to the stream. Given that 90% of the storms in New Jersey are less than 1.25 inches in depth, a significant volume of water passes through these basins without treatment or the opportunity to infiltrate into the soil by traveling out of the basins via the low-flow channel.

Mike Haberland, Environmental and Resource Management Agent, Rut-
A partnership project between Rutgers Cooperative Extension and the New Jersey Water Supply Authority (NJWSA) brought a build a rain barrel workshop to a targeted neighborhood in Somerville on June 10, 2010. As a component of the Peters Brook Watershed Project, a workshop was held in Walck Park for neighbors living in the neighborhood of 41 houses bordered by Walnut Street, Spring Street, Cadillac Street, and Gaston Avenue (Figure 2). The lecture took place under a tent in the park rather than in a classroom setting, and neighbor sat by neighbor with Ross’ Brook for a backdrop as Robert O’Neil from NJWSA pointed to a map showing how their water travels from their roof to their driveway to their road to their stream to the Raritan River and back to their house. Pat Rector, Rutgers Environmental Agent, discussed stormwater runoff and nonpoint source pollution and erosion. Heather Barrett, NJWSA and Aj Bozenmayer, AmeriCorps Ambassador, assisted with the workshop, and Mike Haberland, Rutgers Cooperative Extension Environmental and Resource Management Agent for Camden and Burlington Counties, also came up to lend a hand.

The neighbors then joined together to build their rain barrels. Some even...Rain Barrels go to a Neighborhood continued on page 15 →
A new collaborative project between the Rutgers Cooperative Extension Environmental Agent for Morris and Somerset County, Pat Rector and the Morris County 4-H Program, with Rachel Lyons 4-H Agent and Terry Yost Program Associate brought build a rain barrel workshops in a new direction and ultimately to the Morris County 4-H Fair. High school students in the “Be The Change” 4-H Program had a great time at a “Build-a-Barrel” workshop held at the Rutgers Cooperative Extension offices of Morris County on June 14th where they participated in building rain barrels together and prepared them for painting. Be The Change is a community service 40H Club for Teens interested in making a difference in their community, and the name derives from the quote from Gandhi “You must be the change you want to see in the world.”. During the week of June 14th Katelyn DeBiasse, a former 4-H member and intern for the summer, who attends Philadelphia School of the Arts during the school year, outlined pictures for the teens to paint. On June 23rd the teens learned about watersheds and non-point source pollution through a power point lecture provided by Pat Rector. This enabled them to make the connection between the barrels they were making and the environmental benefit the barrels would provide. Then one activity during the Be The Change Day Camp was to paint their barrels. A great time was had by all. The painting continued the following day and the teens then practiced teaching back; preparing the key points they wanted to get across to the audiences at the Morris County 4-H Fair as they then taught what they had learned.
During the 2009–2010 term of service, members organized and took part in a variety of service projects that aimed to improve water quality and reduce water consumption within their communities. As the service year comes to an end and new Watershed Ambassadors are recruited, the NJWAP members reflect on some of the activities that brought together various organizations and community members.

- In March and April, 70 rain barrels were constructed during the build-a-rain barrel workshops coordinated by Shaina Phillips (Watershed Ambassador of Salem, Cohansey, and Maurice River Watershed) and in cooperation with Cumberland County Improvement Authority, Rutgers Cooperative Extension, and Cousteau Center of Bridgeton.
- On April 17 Aj Bozenmayer (Watershed Ambassador for Lower Raritan, South & Lawrence Rivers) commemorated the 40th anniversary of Earth Day with NJ Community WaterWatch and Rutgers University Student Life by cleaning up 2.73 tons of trash, 0.63 tons of recyclables, and 23 tires from the Raritan River Watershed in New Brunswick.
- On April 24, Shaina Phillips partnered with the American Littoral Society and along with 25 volunteers over a ton of trash was removed along the Cohansey River in Bridgeton.
- On April 30th, Kelly Burja (Watershed Ambassador for the Lower Passaic River) and 34 students from International High School collected 100 bags of trash from the Great Falls in Paterson.
- On June 19th Lindsay Harrington (Watershed Ambassador of Barnegat Bay Watershed) in

Students Build Knowledge and Oyster Reefs through Project PORTS

By Lisa Calvo, Watershed Coordinator, Rutgers Institute of Marine and Coastal Sciences, Jacques Cousteau National Estuarine Research Reserve

This spring K-8 students throughout South Jersey have participated in a unique education and community-based oyster restoration called Project PORTS: Promoting Oyster Restoration through Schools. Developed by Rutgers University, this program puts University marine scientists into elementary and middle school classrooms to offer lessons about local maritime history and marine ecosystems via a Delaware Bay, oyster-focused curriculum. Following several in-class experiences, the students participated in a stewardship activity, in which they filled nearly 3000 bags with more than 10 tons of clam shell. The shell bags are being used in a “real-world” restoration project to revitalize Delaware Bay oyster populations.

Earlier this summer, the shell bags were placed in the lower Delaware Bay where they have become a settlement surface for millions of oyster larvae. The recruited oysters and shell base will be transplanted to conservation and fishery sites in mid-August. The transplant will require a team of 40 volunteers. Anyone interested in this unique opportunity to participate in a community-based oyster restoration project should contact, Project PORTS coordinator, Lisa Calvo (calvo@hsrl.rutgers.edu).

Sonia Pietrzykowska, age 12, and Adrian Pietrzykowski, age 10, arrange bags of clam shells which will serve as a settlement surface for oyster larvae.

Students Build Knowledge and Oyster Reefs through Project PORTS

By Lisa Calvo, Watershed Coordinator, Rutgers Institute of Marine and Coastal Sciences, Jacques Cousteau National Estuarine Research Reserve

This spring K-8 students throughout South Jersey have participated in a unique education and community-based oyster restoration called Project PORTS: Promoting Oyster Restoration through Schools. Developed by Rutgers University, this program puts University marine scientists into elementary and middle school classrooms to offer lessons about local maritime history and marine ecosystems via a Delaware Bay, oyster-focused curriculum. Following several in-class experiences, the students participated in a stewardship activity, in which they filled nearly 3000 bags with more than 10 tons of clam shell. The shell bags are being used in a “real-world” restoration project to revitalize Delaware Bay oyster populations.

Earlier this summer, the shell bags were placed in the lower Delaware Bay where they have become a settlement surface for millions of oyster larvae. The recruited oysters and shell base will be transplanted to conservation and fishery sites in mid-August. The transplant will require a team of 40 volunteers. Anyone interested in this unique opportunity to participate in a community-based oyster restoration project should contact, Project PORTS coordinator, Lisa Calvo (calvo@hsrl.rutgers.edu).

Students Build Knowledge and Oyster Reefs through Project PORTS

By Lisa Calvo, Watershed Coordinator, Rutgers Institute of Marine and Coastal Sciences, Jacques Cousteau National Estuarine Research Reserve

This spring K-8 students throughout South Jersey have participated in a unique education and community-based oyster restoration called Project PORTS: Promoting Oyster Restoration through Schools. Developed by Rutgers University, this program puts University marine scientists into elementary and middle school classrooms to offer lessons about local maritime history and marine ecosystems via a Delaware Bay, oyster-focused curriculum. Following several in-class experiences, the students participated in a stewardship activity, in which they filled nearly 3000 bags with more than 10 tons of clam shell. The shell bags are being used in a “real-world” restoration project to revitalize Delaware Bay oyster populations.

Earlier this summer, the shell bags were placed in the lower Delaware Bay where they have become a settlement surface for millions of oyster larvae. The recruited oysters and shell base will be transplanted to conservation and fishery sites in mid-August. The transplant will require a team of 40 volunteers. Anyone interested in this unique opportunity to participate in a community-based oyster restoration project should contact, Project PORTS coordinator, Lisa Calvo (calvo@hsrl.rutgers.edu).

This spring K-8 students throughout South Jersey have participated in a unique education and community-based oyster restoration called Project PORTS: Promoting Oyster Restoration through Schools. Developed by Rutgers University, this program puts University marine scientists into elementary and middle school classrooms to offer lessons about local maritime history and marine ecosystems via a Delaware Bay, oyster-focused curriculum. Following several in-class experiences, the students participated in a stewardship activity, in which they filled nearly 3000 bags with more than 10 tons of clam shell. The shell bags are being used in a “real-world” restoration project to revitalize Delaware Bay oyster populations.

Earlier this summer, the shell bags were placed in the lower Delaware Bay where they have become a settlement surface for millions of oyster larvae. The recruited oysters and shell base will be transplanted to conservation and fishery sites in mid-August. The transplant will require a team of 40 volunteers. Anyone interested in this unique opportunity to participate in a community-based oyster restoration project should contact, Project PORTS coordinator, Lisa Calvo (calvo@hsrl.rutgers.edu).
Rain Barrels Go Corporate: Lunch and Learn

By Pat Rector, County Environmental and Resource Management Agent, Morris/Somerset Counties

The Rutgers Cooperative Extension and New Jersey Water Supply Authority (NJWSA) joined with surgical products manufacturer Ethicon, a subsidiary of Johnson and Johnson, to bring a Lunch and Learn Program titled “Harvesting the Rain” to the Ethicon office in Bridgewater on July 15, 2010. Nine employees enjoyed a few sandwiches, a little introductory lecture on sustainability and rain barrels, and then joined in the fun and built their own barrels to bring home. Lunch and Learn was a great success; everyone had a good time, and there was sufficient time to do the program without stress or hurrying, still allowing plenty of time for laughter. Ethicon is considering hosting these several times a year.

A small group and more frequent workshops is a good fit for a Lunch and Learn. This provided an opportunity to reach an audience with our rain barrel workshops that we do not always manage to draw into the workshops, and as such was an important milestone. Our thanks to Heather Barrett, Kathy Hale, and Rick Anthes from NJWSA and Aj Bozemayer, an AmeriCorps Ambassador, who were all instrumental in developing the program as part of a River Friendly Program. Vincent Mignone, Senior Environmental Engineer for Ethicon did a fantastic job of assuring the program ran smoothly. This program was part of a larger Peters Brook initiative between New Jersey Water Supply and Rutgers Cooperative Extension. For more information please see http://www.raritanbasin.org/.

We expect this is only the first “corporate job” for Mr. Rain Barrel and that he will quickly move up the corporate ladder. For more information on rain barrels http://www.water.rutgers.edu/Stormwater_Management/rainbarrels.html.
Detention basins continued from page 5

Concrete low flow channel, Surry Place East, Cherry Hill, NJ. Picture courtesy Craig McGee.

Gabion barrier, Surry Place East, Cherry Hill, NJ Picture courtesy of Craig McGee.

Gabion barrier, Surry Place East, Cherry Hill, NJ Growth after 1 year. Picture courtesy of Chasity Williams.

gers Cooperative Extension, and Dr. Chris Obropta, Rutgers Water Resources Program, have partnered with the Camden County Soil Conservation District to retrofit several existing detention basins in Cherry Hill, NJ, to provide better treatment of stormwater runoff and mitigation of peak flows. In addition, this project is installing and monitoring the effectiveness of these simple solutions for each of the selected basins, while determining the cost effectiveness of each retrofit. These stormwater basin retrofit projects are designed to provide the greatest practical benefit from each existing basin in the most cost effective method. Retrofits should provide improved water quality treatment, reducing sediment and nutrient loadings to the stream. Basin retrofits are also designed to provide detention of stormwater over a greater surface area allowing for infiltration and pollutant removal of the smaller, more frequent storm events, and reducing or delaying the peak discharge to the receiving waterbody. The success of these projects will aid Cherry Hill Township in identifying and prioritizing suitable mitigation projects in compliance with their Municipal Stormwater Management Plan.

One example of a detention basin retrofit is in the Surry Place East development, Cherry Hill, NJ. This large flood control basin mitigates runoff from an established, medium-density residential development with a drainage area of about 100 acres. The basin discharges directly into the North Branch of the Cooper River. A single, straight concrete low flow channel conveys stormwater from the inflow to outlet along one edge of the basin. The area along the ditch is heavily vegetated with trees, brush and wetland vegetation, including phragmites. The ditch nearly always contained standing water, even during dry periods (Fig. 1).

This basin was retrofitted by installing a gabion barrier (a wire encased rock and geotextile wall) (Fig. 2) across the low flow channel, thereby forcing water out onto the vegetated basin bottom, and enhancing the basin with vegetation. The changes increased the residence time of water from small storms, increasing the...
stormwater’s contact with vegetation, thereby increasing pollutant uptake and improving both the water quality treatment, and the rate of discharge. (Fig. 3). In the gabion barrier, the volume of spaces between the rocks within allows for water to move through it. The Rutgers Water Resource Program will be conducting research to determine other potential methods to provide a barrier in low flow channels for small storm events such as “socks filled with rocks and clay” to increase attenuation of nutrients and improve this method even further.

A second example of an economical retrofit is a detention basin alongside Springdale Farm, in Cherry Hill. The basin had a fairly steep slope with reduced treatment area due to the steepness of the slope. The basin was also designed with the stormwater inlet and outlet being set in close proximity to one another—regrettfully a not uncommon NJ design—therefore stormwater short-circuited most of the basin treatment area. For our project, the low flow channel was removed and the basin bottom was graded nearly flat (2% slope) (Fig. 4). The bare soil was cut harrowed with a tractor, seeded with Cave-in-Rock switchgrass by hand spreader, and the seed pressed into the soil with a track bulldozer. No soil amendments were used. The retrofit was completed by mid-May, and by the end of August the grass was six inches high with a deep, thick root system. In addition there has been no erosion noted and the basin appears to infiltrate well.

In all, four basins in Cherry Hill were retrofitted utilizing the gabion barrier design and one basin was retrofitted by re-grading and replanting (Springdale Farm). The basins are now only mowed once a year, instead of every other week. This has resulted in a savings of approximately $20,000 in man hours for the Township of Cherry Hill according to Steve Musilli, Department of Public Works in Cherry Hill.
of the public. This Commission has become the first Lake Commission in NJ to become at least partially self-sustaining through the enactment of user fee legislation. As the NJ chairperson, Ella Filappone, expresses it, the user fee “gives the Commission a future on which to build.”

The predecessor to the Commission, The Greenwood Lake Watershed Management District Inc. (GWLWMDI) worked tirelessly to address water quality issues and have limnological studies undertaken (PAS 1983) but lacked the resources to address the issues facing the lake. The Commission was formed in 2001 as the need for a focused group of representatives from both states to address water quality issues became apparent. Not so apparent was how the non-funded Commission was to accomplish the lofty goals it was charged with by law (N.J.S.A. S1788:1R; P.L. 1999 c.402 and NYA00294 S416-A). According to legislation, the Commission is charged with many duties including assessing land use practices, identifying environmental threats and developing recommended regulations, and maintenance and protection efforts.

The Commission has dedicated partners: the surrounding Townships and Counties each contribute annual monetary shares along with other partnership assistance, such as manning harvesters with Department of Public Works staff, or removal and disposal of weeds at no cost to the Commission. But in some cases the partner contributions have not always been forthcoming, and this has caused hardships, particularly as money from certain funding sources is contingent on matching funds from Commission partners. The Commission has also actively sought and received competitive grants in both states. And furthermore the Commission has supplemented funds with local sales of t-shirts.

Considering the efforts expended in fund raising, it is not surprising that some commissioners felt a user fee system would better address the needs to fund lake maintenance. The resultant conversations...
about imposing lake user fees included residents, townships, and marina owners. The municipalities then pro-
vided the states with resolutions in favor of the user fee program, and the Commission has had ongoing con-
versations with the marinas, all critical components of their success.

What are other lakes in the nation doing to fund protection and restoration efforts?

There are two recognized models nationally for funding restoration of large lakes: a watershed tax and a user
fee, although either may be referred to by a different name. As the names imply, one adds a tax to residents
within a watershed of a lake, while the second model relies on funding through collecting a fee only from
those that use the resource, usually boaters.

The private trust fund
A third, novel approach to the long term funding option is a private trust fund. Solicitation of donations and
investment of these donations in trust funds is being investigated in the Great Lakes as a potential funding
mechanism to secure long-term funding. This is being investigated there, as the Great Lakes Fisheries Com-
mission found that reliance upon annual appropriations leads to considerable angst as political parties change
power, deficits continue to climb, and competitive grants become more competitive (Lawrence and Pelkey
2006).

The watershed tax
One example of the watershed tax can be found in Wisconsin. Wisconsin allows for the creation of a Lake
District, which can be established by a local town, county, city, or village board to provide funding to
“protect, rehabilitate and improve public inland lakes.’ (LPPRD Fact Sheet) if at least 51% of the landowners
or owners of at least 51% of the land in the proposed district petition to a county or town board to establish a Lake District. All property that is subject to general property taxes, and is within a lake dis-
trict’s boundary, is taxable by the Lake District. This tax is referred to as the “mill levy” (may not exceed 2.5 mils or $2.50/$1,000 of property value) and appears on the general property tax bills. The mill levy funds are used to evaluate lake management issues, develop long range lake management plans, provide water quality monitoring and water safety patrols while an additional special levy may be instituted for sewer or water ser-
vice or weed or algae control (LPPRD
cooperation with Jackson Clean Communities, The Barnegat Bay Partnership, and 100 volunteers removed enough garbage to fill a 30 yard dumpster during a Colliers Mills Wildlife Management Area cleanup.

• On June 29th, 45 rain barrels were constructed at the Livingston Public Library during a build-a-rain-barrel workshop organized by Adam Osborne (Watershed Ambassador of the Upper Passaic, Whippany & Rockaway River watersheds) in coordination with Rutgers Cooperative Extension.

• Steve Hruby (Watershed Ambassador of Arthur Kill River) has been working with the Rahway High School Social Action Club-Water Champions to help conduct a water audit and cost/benefit analyses in order to report finding that will allow the high school to upgrade the bathrooms to the latest water-saving plumbing fixtures and faucets. The project is in conjunction with the NJDEP, Rutgers Cooperative Extension Water Resources New Jersey Water Savers Program, the NJDEP, the US Environmental Protection Agency (USEPA) and Piscataway-based American Standard Brands. On July 13th the results were presented to members of the Rahway school board, representatives of the EPA, the NJDEP, Rutgers University, local Rahway officials and executives from American Standard Brands.

The 2010–2011 Watershed Ambassadors will soon be available to help your municipality, organization, commission or association with a service event whether it is a clean-up, rain barrel workshop, rain garden construction, tree planting, watershed walk, or 5K run/walk.

For more information about the NJ Watershed Ambassador Program visit www.nj.gov/dep/watershedmgmt/ or contact Akili Lynn, Program Manager at (609) 777-1406 or Akili.Lynn@dep.state.nj.us.
brought their families to make it a true community affair; wives helped husbands screw in and caulk the faucets while sons were helping moms make sense of directions, and one neighbor had his barrel set up on the drain pipe at his house to show his neighbors how to install their rain barrels. The barrels were put together in the park, and most were simply carried home. This is the first of several planned community Build a Barrel workshops in the Peters Brook watershed. There are scheduled workshops in Raritan and Bridgewater and this Somerville neighborhood is excited to have its second community workshop scheduled in August. There were 26 participants, many of which were from the “neighborhood”.

Rutgers Cooperative Extension with Rutgers Water Resources Program and assistance from New Jersey Water Supply Authority will be monitoring the “neighborhood” stormwater outfalls to attempt to measure water quality improvements due to the installation of rain barrels in the neighborhood. This is a pilot project attempting to measure the impact of a targeted implementation of small individual projects on a cumulative basis. There is considerable excitement to see if implementation can be successful and successfully measured at this “neighborhood” scale.

Follow up will be conducted in the “neighborhood”. This is a picture of one of the barrels that has already been installed. So far in Somerville approximately 10% of the neighborhood joined in the workshop. Self-reporting provides an estimate of 33% installation rate for neighborhood participants. “There may be more. The protocol is to conduct a 3-month follow-up survey at which time we will have greater detail,” says Robert O’Neil, NJWSA.
Along with the traditional 4-H Morris County Fair exhibits and demonstrations, fairgoers were able to see painted rain barrels sitting beneath a traditional “Horses” sign, and along with an equine show they could observe a build a rain barrel demonstration. It was exciting to see the blend as rain barrels were beautifully painted depicting roosters, hens, and chicks. On July 23 and 24th, as 4-H celebrated its 40th year at the fair in Morris County the teens provided an environmental lesson to fairgoers, with one teen teaching about rain barrels and watersheds, while a partner “built a barrel” beside them as they taught. Bidding on the Barrels was through a Silent Auction and the barrels were taken home by the lucky winners at the end of the Fair. The teens learned about watersheds and non-point source pollution; they increased their confidence as they learned to make barrels and create “masterpieces” that were bid on at Auction and as they taught back at the fair with their presentations. As some of the barrels may be going home to their teen the lessons may continue at home as teens help install them and become aware of water conservation practices around the home. The highest bid was $75 for the “flower” barrel, all the barrels were auctioned and the costs for the barrels were covered. Hopefully this will become a tradition at the Morris County 4-H Fair.

Be The Change 4-H members work on their ideas of what to teach at the upcoming Morris County 4-H Fair. They will discuss rain barrels, water conservation, and non-point source pollution. This is developing their “teaching back” skills.

4-H members Alix Z, Mel K. and Jen W. practice Teaching Back for the Rain Barrel event at the Morris County 4-H Fair.

Mike B. and Pat D., 4-H members work on putting together their rain barrel during the build a rain barrel workshop as Pat Rector, Environmental Agent looks on.

4-H members James O. and Anthony C. insert faucet while Program Associate Terri Yost looks on.

...Photos for Rain Barrels go to the Fair continued on page 17 →
Rain Barrels go to the Fair
• and to launch the recently hired Rutgers Environmental & Resource Management Agents and draw attention to the local initiatives they are leading.

The conference speakers included Dr. Steven Handel, Rutgers Department of Ecology and Natural Resources, Middlesex County Freeholder H. James Polos, and Dr. Robert Goodman, Director of the NJ Agriculture Experiment Station and Dean of the Rutgers School of Environmental & Biological Sciences. Each discussed the importance of environmental urban-suburban initiatives and solutions from their own personal experiences and perspectives.

Several Panels then addressed key questions including the meaning of “urban” in New Jersey, the Economy and Green Infrastructure and Green Jobs and a panel illustrating case studies and solutions. A few highlights included Rob Wisniewski, Director of Sustainable Development at Lincoln Park Coast Cultural District in Newark who provided examples of residential renewal projects, and Dr. Kevin Lyons, Chief Procurement Officer/Research Professor Rutgers discussing the research conducted on developing and integrating global environmental, social, economic, and ethical criteria and data into supply chain/procurement systems and processes. As always case studies are an exciting and invigorating component of a conference. Debbie Mans, Executive Director of NY/NJ Baykeeper described the Raritan Bay Oyster Bay Project designed by Rutgers, while Captain Bill Sheehan, Hackensack Riverkeeper highlighted the Riverkeeper Modular Green Roof project designed by Rutgers studio design classes in Environmental Science and Landscape Architecture as an illustration of a visible project to encourage others to follow the lead. Ray Dressler, Director Bergen County Parks described obtaining broad public support on the Van Buskirk Island Park project with aid from Rutgers public outreach efforts. The love of Liberty State Park came ringing through as Dr. Frank Gallagher, NJDEP and Rutgers faculty member, discussed the history of this restoration at ecosystem levels.

A fourth panel was lead by Dr. Christopher Obropta. This session featured the Environmental & Resource Management Agents: Michele Bakacs (Middlesex/Union counties); Mike Haberland (Camden/Burlington Counties); Pat Rector (Morris/Somerset Counties); Sal Mangiafico (Salem/Cumberland Counties); and Jeremiah Bergstrom (Rutgers Cooperative Extension Water Resource Program) who each described key projects they are leading in their Counties. After the individual presentations the Agents led County discussion groups in identifying critical needs assessments. Many of the group participants asked that Rutgers

...Rutgers Center for Urban continued on page 31 →
Borough in Monmouth County, East Greenwich in Gloucester County, and Egg Harbor Township in Atlantic County.

For more information visit [http://www.water.rutgers.edu/Projects/DWC/NJWS_Default.html](http://www.water.rutgers.edu/Projects/DWC/NJWS_Default.html).

*          *          *

**Turf Management for a Healthier Lawn**

This Rutgers Cooperative Extension website provides links to numerous extension publications and websites which give information to homeowners on good lawn care practices with an emphasis on reducing water use and preventing non-point source pollution. The cited publications range in scope from simple brochures to rather comprehensive turf maintenance manuals. Topics covered include environmentally-friendly lawn care, liming and fertilizing, and pest management and pesticides.

For more information visit [http://salem.rutgers.edu/nre-turf/index.html](http://salem.rutgers.edu/nre-turf/index.html).

*          *          *

**Rutgers Environmental Steward program**

The Rutgers Environmental Steward program provides training and experience for people wishing to develop the knowledge and skills which will allow them to more effectively contribute to finding solutions for environmental problems in their communities.

Classes for the 2010 term have completed. Visit the Environmental Stewards website to see if you would like to enroll for the 2011 term.

For more information and a program brochure visit [http://envirostewards.rutgers.edu/](http://envirostewards.rutgers.edu/).

*          *          *

**Water Chestnut Tracking Program**

The Water Chestnut Task Force provides a database for tracking water chestnut (an aquatic invasive species) in New Jersey. The website provides a Fact Sheet on Water Chestnut and a downloadable presentation. There is also a simple reporting form to report a water chestnut (*Trapa natans*) sighting in NJ. [http://morris.njaes.rutgers.edu/](http://morris.njaes.rutgers.edu/) under “Featured Events.”
Wastewater Eco-Charities is the first non-profit organization in the region to provide free septic system main-
tenance services. By the end of 2014, Wastewater Eco-Charities goal is to have serviced over 8,000 house-
holds. Additionally, Wastewater Eco-Charities believes that environmental education and advocacy is espe-
cially important to all qualified households. Not only as a prerequisite to the services provided; the education
will better individuals’ knowledge and recognition to help preserve the environment. For more information or
to see if you qualify for free service, please visit our website www.wastewatereco.bbnow.org, or call Jamie or
Joe at 856-358-4771, otherwise e-mail Jamie at Jamie.K.Wilson@Earthlink.net.

How your septic system works
(Information from K.K. Holt, no date.)

There are many variations in septic system design, but while the systems may be somewhat different, they all
perform the same basic function: to process raw sewage into a cleaner effluent that can be evenly distributed
beneath the ground and blended with the groundwater, so as to avoid creating a health hazard.

The four basic parts of the system are the inlet pipe, the septic tank, the outlet pipe and an absorption compo-
nent. Effluent moving through these parts is in motion almost constantly.

When the toilet is flushed in your home, approximately three gallons of water and waste flows into the inlet
pipe connected to the septic tank. From there, it is held in the tank for approximately two days. In some cases,
if you have high hydraulic flow rates due to house guests, or excessive amounts of laundry or showering, the
holding period is significantly reduced. During this initial holding period, the anaerobic bacteria break down
the organic material in the wastewater, reducing the amount of organic matter and contaminants in the water
by about 40%. After the effluent makes its way through the tank, this cleaner water (still containing 60% of its
original organic material) flows out into the distribution field for further treatment.

In the distribution field, a natural layer of anaerobic bacteria and black slime forms at the bottom of the gravel
layer. This layer is known as the bio-mat. The black slimy substance protects the bacteria from being exposed
to oxygen. If these anaerobic bacteria were to come in contact with oxygen, they would quickly die. The bac-
teria in the bio-mat use the organic matter dissolved or suspended in the water coming from the septic tank as a
food source, further cleaning the wastewater and removing an additional 60% of organic material.

However, the anaerobic bacteria within the bio-mat are rather slow to digest the organic material. The by-
product of the anaerobic bacteria—the black slimy substance—closes some of the soil pores, resulting in a re-
duction in flow of the water through it. This affords the bacteria sufficient time to enable them to more com-
pletely clean the wastewater. The result is clean water percolating through the soil and often eventually enter-
ing the water table where it mixes with the groundwater.

Do’s and Don’ts
In order to keep your septic system working correctly and prevent damages to your system and the environment there are many do’s and don’ts that all households should follow.

- **DON’T** pour any of the following into your home drain: paints, varnishes, oil, antifreeze, pesticides, and degreasing materials.
- **DON’T** dump cooking oils, fats or grease into the kitchen sink, your system cannot treat grease.
- **DON’T** flush inert or non-biodegradable items down sinks or toilets; these include wipes, tampons, sanitary napkins, diapers, etc.
- **DON’T** use excessive amounts of water if you want your septic system to continue to operate properly.
- **DON’T** discharge floor drains, water conditioner discharges or sump pumps into septic systems.
- **DON’T** add a garbage grinder to a home with a septic system.
- **DON’T** drive or park vehicles or trailers over the disposal field; the weight can cause physical damage such as broken connecting pipes and distribution boxes.
- **DON’T** plant trees or other vegetation with extensive or deep root systems; tree roots are capable of exerting enough pressure to rupture or dislodge distribution boxes and pipes. Grass is the best cover for disposal fields.
- **DON’T** divert surface water runoff towards the disposal field. The water infiltrating into the disposal field can result in hydraulic overloading and ultimately septic system malfunctions.
- **DON’T** construct driveways, parking lots, accessory buildings, decks or patios which intrude upon any component of the septic system components.
- **DON’T** overload the septic system with wastewater by operating a home business, home school or informal day care operation. The septic system is only intended to serve the needs of two adults in the master bedroom and one child in each additional bedroom.

- **DO** Have your system inspected and pumped a minimum of every one to three years.
- **DO** know where waste from your septic sludge is disposed. Illegal dumping can lead back to you.
- **DO** avoid showering and bathing at times when dishwashing and laundry are in use.
User fees
User fees are not new although new applications such as management of natural lands are being considered (Cantey, 2004). Lake George, NY provides an example of a user fee system and is also the template for the Greenwood Lake legislation. Lake George collects monies from permit applications, but the predominant user fees are for dock fees and boat fees. There is a $37.50 annual fee for each dock, wharf or mooring for residential use. A commercial dock owner pays an annual fee of $3.75 per useable linear foot. Although dock fees were included in the original Greenwood Lake legislation, they were removed to accommodate concerns of marina owners around the lake. Boat fees for Lake George are mirrored in the Greenwood Lake legislation.

Greenwood Lake
Early this year Greenwood Lake became the first large state-owned lake in NJ to institute a user fee mechanism for providing a stable source of funding for restoration and environmental efforts, including weed harvesting. Initial legislation included Lake Hopatcong but residents of that area opposed such legislation. Removal of Lake Hopatcong from the legislation enabled Governor Corzine to sign user fees for Greenwood Lake into law on January 11, 2010. The companion bill in NY had to be re-introduced and has not passed yet although it is expected to pass this coming fall.

Currently, a bill has been re-introduced into the NY Senate by Senator Morahan to amend the Greenwood Lake Protection Act (S8352) and into the NY State Assembly by Assemblywoman Rabbitt (A11449); both bills will allow for the collection of user fees for boats on Greenwood Lake but require the removal of dock fees. Even so, there are still some differences between the New York and New Jersey legislation. According to NY State requirements, the money can not go directly to the Greenwood Lake Commission, it must go to Albany and then to the Commission; whereas NJ legislation allows for the collection of fees to go directly to the Greenwood Lake Commission Fund. Steve DeFeo, the New York Chairperson, knows that achieving this goal of user fee legislation has not been easy but, “It is something that is needed. It was a long battle to get this legislation. It gives us some form of guaranteed funding that we can really count on, on an annual basis. With budget cuts in both states this is a welcome relief.” If passing any legislation is always a challenge, bi-state legislation that is substantively similar is even more of a challenge, but Ella Filippone is sure that the “support we received from New York legislators helped substantiate the usefulness of this program”.

It is not expected that the funds generated from the user fees will make the Commission self-sufficient. As Steve DeFeo explains, “With around 2,500 applicable vessels on the lake, the Commission is anticipating an annual revenue source of $75,000 to $90,000 to fund administrative costs, weed harvesting, stump removal and other projects designed to benefit the watershed, the lake and its users, according to the approved legislation in New York and New Jersey. Unlike Lake George, that raises $900,000 from user fees with the same fee structure, we are only looking at generating $75,000 to 90,000. Dock fees? One reason for the discrepancy from $90,000 high estimate here on this lake to the $900,000 on Lake George is the change in the legislation eliminating the dock fees which will probably lose us $200,000 per year, and the other reason is we do not...
have the boat traffic Lake George has.”

“But the user fees will give us a steady income on an annual basis that will help us address the needs of the lake.” says Ella. The projected budget for the Commission for General Administration and Capital Expenses is close to $180,000 per year, so the $75,000 to $90,000 is at best one-half of their operating needs, the Commission will still need to rely upon their partner municipalities, counties, states and perhaps even t-shirt buyers. The funds will be used for weed harvesting, maintenance of the harvesters, and some water quality monitoring. A small amount will be used to cover the administrative costs of the user fees and insurance.

Fees will be charged by the Greenwood Lake Commission for any mechanically propelled boat or vessel with 10 or more horsepower, and for any non-mechanically propelled boat or vessel 18 feet or greater in length used on Greenwood Lake. The application form for boat registration is available on-line at http://www.gwlc.org/User_Fee_Application_2010.pdf

**In conclusion**

As the boats pull out onto Greenwood Lake there are few weeds evident in early July, which is not the case for all the large lakes in northern New Jersey area. Perhaps a small user fee and Commissioners who are extremely dedicated are just what this beautiful lake that spans two states needs.

**Literature Cited**


Lawrence, T. and M. Pelkey. 2006. Alternative funding mechanisms for the Great Lakes Fishery Commission: Private trust fund vs. annual appropriations. A practicum submitted in partial fulfillment of the requirements for the degree of Master of Science Natural Resources and Environment at the University of Michigan December 2006.


(LPPRD) Lake Puckaway Protection and Rehabilitation District Lake District Fact Sheet.

meet with some controversy in the U.S. Senate.

The American Power Act
The major piece of climate change legislation under discussion in the U.S. Senate is the American Power Act (APA), sponsored by Senators John Kerry (D, MA) and Joe Lieberman (I, CT). The act proposes a cap-and-trade mechanism to regulate greenhouse emissions from utilities, industries, and transportation, with the option of regulated entities purchasing carbon offsets from farms, developing nations, or forest protection projects to allow emissions which could not be covered by traded credits. The bill also has provisions to subsidize alternative domestic energy and nuclear power, as well as consumer price protections. It is relatively similar to the Waxman–Markey American Clean Energy and Security Act, which passed the House of Representatives in 2009. Passage of the APA would probably impact electrical utility companies–especially those that rely on coal—the most, with the probable result of an increase in energy costs and a movement of U.S. electricity producers away from coal to natural gas and nuclear generation, along with wind and other alternate sources.

Proponents of the bill note that it is designed to reduce greenhouse gas emissions while making the U.S. more energy independent, creating domestic and permanent “green collar” jobs, and limiting impacts to consumers. The bill has also been scored by the Congressional Budget Office as producing a net decrease in the national debt. Industry has supported provisions that would make this law supersede any state-mandated cap-and-trade mechanism and protect industries from regulation by the U.S. E.PA. for greenhouse gas emissions. Some larger utilities have also praised the bill for providing price certainty for emissions and guaranteeing government support for green energy investments.

Opponents of the bill worry that imposing additional charges on energy generation and consumption will retard economic growth and decrease job creation, which would be especially bad in the current U.S. economy already suffering from limited growth. Others have criticized the bill for costing too much producing insufficient reductions in greenhouse gas emissions or limited increases in domestic or clean energy. Opponents to expanding nuclear energy have criticized the bill’s considerable subsidies to nuclear power.

Current alternate proposals
With the loss of backing by Senator Lindsey Graham (R, SC) earlier this year, it appeared there would not be the requisite bi-partisan support for the APA to be passed by the Senate. However, it’s recently been surmised that — largely reinvigorated by the oil spill in the Gulf of Mexico— some form of energy or climate change bill will be considered soon in the Senate, with debate beginning possibly in July.

One suggestion has been a thinner bill based on the APA that would retain its cap-and-trade mechanism, but would focus on energy utilities only while exempting industry and transportation. It has been suggested that this sort of bill could allow the U.S. to meet its pledge for greenhouse gas reduction from the Copenhagen talks. This suggestion has drawn some criticism from some utilities since it would regulate their emissions while ignoring other industries.

Another suggestion, mostly from the Republican side of the aisle, is an “energy only” bill—including the
American Clean Energy Leadership Act—which would not specifically address greenhouse emissions but would focus on the promotion of domestic energy, fuel economy, alternative energy sources, and nuclear power. Proponents say this approach would also limit greenhouse gases with no mechanism that could tax consumers or limit economic growth. Detractors note that without the cap-and-trade mechanism, subsidies for clean energy would be unfunded and would require a tax increase or an expansion of the national deficit.

**Latest news**

News reports at the time of this writing suggest that Senate Democrats may abandon their hopes of passing a large climate change bill this summer ([Hulse and Herszenhorn](http://www.nytimes.com/2010/07/23/us/politics/23cong.html)), but may look to attempt again after the November elections ([Senator Kerry](http://www.politico.com/news/stories/0610/39165.html)).

**Selected references**


UPCOMING EVENTS

**August 2010**

**Stream Ecology, Ages 4-10 with an adult**
Date: 8/04/2010  
Time: 10:00 AM - 11:30 AM  
Location: Lewis Morris Park, Morris Township  
Description: Get your feet wet while exploring the streams of Lewis Morris Park to discover the animals and plants that call this habitat their home.  
Cost: $5  
Sponsor(s): Morris County Parks Commission  
Contact: 973-635-6629  
More Info: [http://www.morrisparks.net/calendars.asp](http://www.morrisparks.net/calendars.asp)

**Create a Butterfly Habitat**
Date: 8/7/2010  
Time: 10:00 AM - 11:00 AM  
Location: Mercer Educational Gardens, Pennington, NJ  
Description: Master Gardener butterfly experts will share tips on how to draw these beauties to your own yard. Be prepared to tour the MEG gardens and meadow to see which plants attract butterflies and entice them to stay and lay their eggs.  
Cost: $3.00 suggested donation  
Contact: Master Gardeners, 609.989.6830  

**All About Fall Home Lawn Care**
Date: 8/10/2010  
Time: 7:00 PM - 8:30 PM  
Location: Mercer County Extension Office, 930 Spruce Street, Trenton, NJ  
Description: Barbara J. Bromley, Mercer County Horticulturist, will share ideas and tips on home lawn maintenance. Learn how to prepare lawns for reseeding, renovation or sodding and how to select the correct grass seed for your yard. Pick up a soil test mailer to know if fertilizer or lime is really needed.  
Cost: $3.00 suggested donation

**Mission: Monarch Search Morris County Parks Commission**
Date: 8/11/2010  
Time: 2:00 PM - 3:00 PM  
Location: Pyramid Mountain, Morris County  
Description: Visit Pyramid Mountain to learn all about the amazing monarch butterfly and help search the butterfly gardens to tally how many monarch eggs, caterpillars, chrysalids and butterflies are found. (raindate Aug. 29)  
Cost: $2  
Sponsor(s): Morris County Parks Commission  
Contact: 973-334-3130  
More Info: [http://www.morrisparks.net/calendars.asp](http://www.morrisparks.net/calendars.asp)

**2010 Somerset County 4-H Fair**
Date: 8/11/2010 – 8/13/2010  
Time: 10:00 AM - 10:00 PM  
Location: 355 Milltown Road, Bridgewater, located between Routes 22 and 202.  
Description: Since 1948, thousands of visitors have enjoyed the Somerset County 4-H Fair. The Fair has grown and changed, but there are still no admission or parking fees, no midway or carnival rides. This Fair recognizes the accomplishments of 1,000 Somerset County 4-H members and is a showcase for visitors to see a wide variety of 4-H projects in action. To make getting in and out of the fairgrounds as easy as possible, free shuttle buses run from 9:30 a.m. to 10:30 p.m. each day of the Fair from Raritan Valley Community College Rt. 28, North Branch.  
Contact: 4-H Office at: 908-526-6644.  
More Info: [http://somerset.njaes.rutgers.edu/4hfair/](http://somerset.njaes.rutgers.edu/4hfair/)
UPCOMING EVENTS

**Butterfly Festival**
Date: 8/14/2010  
Time: 10:00 AM - 4:00 PM  
Location: Stony Brook Millstone Watershed Reserve, 31 Titus Mill Road, Pennington NJ 08534  
Description: Enjoy fun for the whole family at the 10th Annual Butterfly Festival at the Watershed Reserve! The day’s fun includes naturalist-guided tours of the Kate Gorrie Memorial Butterfly House, live entertainment, local food, children’s activities and an array of demonstrations and exhibits about the environment. Parking is generously provided at Bristol-Myers Squibb on Titus Mill Road.  
Cost: $5/person; $15/carload  
Contact: (609) 737-3735  

**'Be the Change' Day**
Date: 8/28/2010  
Time: 9:00 AM  
Location: Mercer County 4-H Office - 930 Spruce Street, Trenton, NJ  
Description: Join other 4-H'ers to tackle a community issue and environmental need! Plant trees at a local park as part of the 1 Million Trees Project.  
Contact: Kate Everett, 609.989.6833, keverett@njaes.rutgers.edu

**Eco-Ventures at the EARTH Center**
Date: 8/23/2010 to 8/27/210  
Time: 9:00 AM - 2:00 PM  
Location: EARTH Center, Davidsnons Mill Pond Park, 42 Riva Ave, South Brunswick, NJ  
Description: Middlesex County students entering 5th through 8th grades are invited to attend a summer day program at the County's Extension office called "Eco- Adventures at the EARTH Center" in Davidson's Mill Pond Park, South Brunswick.  
Cost: $110 includes program materials  
Contact: Vicky, 732-398-5261  
More Info: http://www.co.middlesex.nj.us/extensionservices/

**Garden Field Day at the EARTH Center**
Date: 8/28/2010  
Time: 1:00 PM - 5:00 PM  
Location: EARTH Center, Davidsnons Mill Pond Park 42 Riva Ave, South Brunswick, NJ  
Description: Middlesex County's Extension Agriculture Department and Master Gardeners will be on hand, offering sound advice on horticulture and environmental stewardship. Tours will be given of the various demonstration. Extension personnel will also be conducting a Jersey Fresh Produce Taste Test. (rain date Aug. 29)  
Cost: Free  
Contact: Carole, 732-398-5262  
More Info: http://www.co.middlesex.nj.us/extensionservices/

**Lion’s Lake Park Rain Garden Installation**
Date: 8/26/2010  
Time: 9:00 AM – 12:PM  
Location: Lion’s Lake Park, Route 73 & Dutchtown Road, Vorhees, NJ  
Description: Installation of a demonstration Rain Garden.  
Cost: Free  
Contact: Amy Boyajian, 732-932-9800 x 6164 or boyajian@envsci.rutgers.edu  
UPCOMING EVENTS

Healthy Lawns in the Passaic Basin
Date: 9/01/2010
Time: 6:00 PM - 7:00 PM
Location: Morris County Library, West Hanover Avenue, Morristown
Description: Salvatore Mangiafico of Rutgers Cooperative Extension will provide a lecture on maintaining healthy lawns. He will also discuss the role of fertilizers in lawn management, and environmental impacts of lawn care.
Cost: Free
Sponsor(s): Whippany River Watershed Action Committee
Contact: Pat Rector, 973-285-8300 x 225

20th Annual Great Tomato Tasting
Date: 9/01/2010
Time: 3:00 PM – dusk
Location: Rutgers Snyder Research and Extension Farm, 140 Locust Grove Road, Pittstown, NJ
This year’s event includes the very popular tasting of both heirloom and hybrid tomatoes and wagon tours of the farm’s research plots, including deer tolerant ornamentals, plants that can attract beneficial insects to your garden, and award-winning Jersey Grown™ daylilies. Please bring non-perishable canned food items to support the Rutgers Against Hunger (RAH) program.
Cost: $5, Children under 10 are free
Contact: 908-713-8980
More Info: Click here for more information.
Please RSVP: https://njaes.rutgers.edu/rsvp/tomato

Bats on the Brink! Bat Program and Evening Walk
Date: 9/14/2010
Time: 6:00 PM
Location: Pyramid Mtn, Morris County
Description: Join Dr. Lance Risley of the William Paterson University Biology Department for an update and discussion on the bats of North America including White Nose Syndrome. Finish with a walk on the trails searching for bats with an echolocation device.
Cost: $5
Sponsor(s): Morris County Parks Commission
Contact: 973-334-3130. Preregistration required.
More Info: http://www.morrisparks.net/calendars.asp

Annual “Meet a Monarch Butterfly” Festival
Date: 9/18/2010
Time: 1:00 PM – 4:00 PM
Location: Pyramid Mtn, Morris County
Description: All Ages! Come on out and learn all about these fabulous butterflies and their miraculous 2,000-mile journey. Games, crafts, music, activities and so much more!!
Cost: $4/person
Sponsor(s): Morris County Parks Commission
Contact: 973-334-3130. Preregistration required.
More Info: http://www.morrisparks.net/calendars.asp

World Water Monitoring Day
Date: 9/18/2010
World Water Monitoring Day is an international education and outreach program that builds public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies.
http://www.worldwatermonitoringday.org/
UPCOMING EVENTS

Native Plant Walking Tour
Date: 9/25/2010
Time: 3:00 PM - 4:00 PM
Location: Haggerty Center, The Frelinghuysen Arboretum Morris County Parks Commission, Hanover Avenue, Morris Township, NJ
Description: Kathy Salisbury, President of the New Jersey Native Plant Society leads an hour long tour of the native trees on the grounds of The Frelinghuysen Arboretum. This tour is a part of Native Knowledge, a month long celebration of native plants.
Cost: $5, Limited space
Contact: 973.326.7603 to register

Enchanted Canoe Paddle Ages 12 & UP
Date: 9/29/2010
Time: 4:30 PM - 7:00 PM
Location: Tourne Park River Access, Denville.
Description: Enjoy an early fall evening, as we leisurely paddle along the Rockaway River. Canoes, life vests and paddles are provided. Children under 16 must be accompanied by an adult. Register today - space is limited! Please call 973-334-3130
Cost: $20, Limited space, Preregistration required.
More Info: http://www.morrisparks.net/calendars.asp

Morris County Green Table Forum: GIS – A web based Public Land Management tool in Morris County
Date: 9/28/2010
Time: 8:00 AM – 9:30 am OR 7:00 PM – 8:30 PM
Location: Morris County Public Safety Training Academy, Hanover Avenue, Morris Township, NJ
Speaker: Frank Pinto (Director, Morris County Department of Planning & Development; Janice Peal and Steve Rice (Morris County GIS)
Description: This is a continuation of the Morris County Green Table Forum Trails Series. The session will provide a live online demonstration of how your town or non-profit can: efficiently inventory county and municipal trail systems; prepare a Green Acres Recreation & Open Space Inventory (ROSI) by yourself online; Prepare a Green Acres Project Reference Map; Catalog all open space properties; and catalog and delineate easements owned/controlled by your town or non-profit. The forum is open to the public, it is heavily geared towards Morris County.
Cost: Free
Contact: Amy Boyajian, 732-932-9800 x 6164 or boyajian@envsci.rutgers.edu
More Info: http://www.morrisparks.net/calendars.asp

October 2010

4-H Rain Barrel Art Program
Date: 10/2/2010
Time: 12:30 PM - 3:00 PM
Location: Jane Voorhees Zimmerli Art Museum located on the Rutgers University, New Brunswick Campus
Description: The RCE Water Resources Program and the 4-H Expressive Arts Program are offering a “Rain Barrel Education-Art Program for Youth” as part of the Museum’s “Water” exhibit.
Cost: Free
Contact: Amy Boyajian, 732-932-9800 x 6164 or boyajian@envsci.rutgers.edu
More Info: http://www.water.rutgers.edu/Rain_Gardens/RGWebsite/raingardens.html
UPCOMING EVENTS

John Connolly Memorial Park Rain Garden Installation
Date: 10/09/2010
Time: 9:00 AM - 12:00 PM
Location: Connolly Park, Centennial Blvd, Voorhees, NJ
Cost: Free
Sponsor(s): Rutgers Cooperative Extension Water Resources Program and 4-H
Contact: Amy Boyajian, 732-932-9800 x 6164 or boyajian@envsci.rutgers.edu

New Jersey Coast Day
Date: 10/10/2010
Time: 11:00 AM - 4:00 PM
Location: Lobster House Restaurant & Dock, Route 109, Cape May, NJ
Description: Tours, live music, exhibits, kid's activities and more. Learn about New Jersey's marine and coastal environment. It's fun, it's educational and it's a great day for the whole family.
http://www.njmsc.org/CoastDay.html

Washington Valley Hawk Watch
Location: Miller Lane, Bridgewater, NJ
From August through November, the Washington Valley Park Hawk Watch Area is host to several hundred hawk watchers from all over the northeastern United States. They come to witness the thousands of hawks, falcons, and eagles flying overhead, sometimes just over the treetops. Endangered and threatened birds like Ospreys, Peregrine Falcons, and Bald Eagles are some of the most noteworthy of the birds soaring above the area, especially when weather conditions are just right. After a cold front moves through the area and the winds shift from the northwest, the stage is set for a day of effortless flight. When the condition occurs in mid-September while the Broad-winged Hawk migration is at its peak, over 10,000 raptors can be seen in a single day. The Washington Valley Park Hawk Watch Area can be reached by traveling Route 22 to the Vosseller Avenue exit in Bridgewater. If you have any further questions about the Washington Valley Park Hawk Watch Area, please call the Somerset County Park Commission Rangers at 908 231-0802 or the Naturalists at 908 766-2489.
help them to develop the solutions and plans that are required to implement environmental improvements within their local communities and watersheds.

The CUES Conference provided a forum which brought together professionals from inside and outside the university who have an interest in the urban-suburban environmental issues New Jersey faces. The enthusiastic response to the Conference and the Environmental & Resource Management Agents indicates there is a great need for Rutgers to expand its focus and expertise to address urban-suburban environmental issues. For more information regarding the Center for Urban Environmental Sustainability (CUES) please visit http://cues.rutgers.edu/default.asp.

**Reference**


---

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.