The Rutgers Cooperative Extension (RCE) Water Resources Program was created to help provide solutions to New Jersey’s water resources problems. It is a multi-disciplinary program that integrates teaching, research, and extension and develops strong partnerships. As we enter our sixth year, this summer, we would like to take this opportunity to reach out to one of our most important clientele, the County Extension Agents. We hope to explore opportunities to work closely together and continue to fulfill the Land Grant Mission of providing solutions to the residents of New Jersey. This summer, Christopher Obropta, Ph.D., P.E. plans to visit each of the county offices. Dr. Obropta will meet with the County Faculty and Staff to discuss water related issues that they are facing. He will also explore opportunities for the RCE Water Resources Program to partner with county offices to address these issues.

Additionally, during these visits, Dr. Obropta will be discussing our on-going research and extension efforts in water resources. We hope this will spark some interest in the County Faculty and Staff on how we can work more closely together. Dr. Obropta will also discuss grant opportunities that we can pursue together to bring additional funds into the counties to enhance existing programming and/or create new programming. We believe that strong partnerships will be the key to obtaining a piece of the limited funds that are available for local, state, federal sources.

We are very excited about visiting the county offices. We hope these meetings will enhance collaboration between our program and the county offices. We believe in the Land Grant mission and believe that the Extension Specialists and County Agents need to work closely together to develop solutions to address our stakeholder needs.

The RCE Water Resources Program is Coming to a County Office Near You

The Rutgers Cooperative Extension (RCE) Water Resources Program is pleased to announce the success of two recent training workshops that were held in March and May 2007 at the Holly House in New Brunswick.

Tim Dunne of the Natural Resources Conservation Service and co-author of the protocol was on-hand to provide participants with valuable information and a taste of field experience applying the SVAP tool. Tim Dunne, along with Katie Buckley, Greg Rusciano, Steve Yergeau, and Sean Walsh of the RCE Water Resources Program led field research teams to evaluate the condition of an aquatic ecosystem within a local stream.

SVAP was originally developed by the US Department of Agriculture and modified for New Jersey streams by Omni Environmental Corporation (Princeton, NJ) and RCE Water Resources Program. The SVAP tool assigns numeric value to stream conditions such as channel stability, riparian health, water appearance, nutrient enrichment, and access to floodplain. The information is also useful to prioritize streams for restoration, trash pick-ups, educational and awareness campaigns, and re-vegetation efforts.

To our knowledge, more than 700 stream reaches have been visually assessed with SVAP. Organization of data has been made easier with an online data entry system that can be imported to ArcGIS. This enables a spatial display of all SVAP data points, and allows for environmental data analysis. Watershed areas that have used SVAP to document stream conditions include Ramapo River, Pequannock River, Wanaque River, Pompton River, Strawbridge Lake Watershed, Pompton River, Upper Salem River, Upper Cohansay River, Tenakill Brook, Musquapsink Brook, Musconetcong River, Neshamic, Raccoon Creek, Oldman’s Creek, and others.

The workshops were made possible by RCE, New Jersey Sea Grant and the USDA CSREES Regional Water Coordination Program. For more information about this training program, please contact Greg Rusciano at greg.rusciano@rutgers.edu.

Stream Visual Assessment Protocol (SVAP) Update
The proposed study will use Microbial Source Tracking (MST) techniques to determine the relative contributions of small scale dairy operations to fecal contamination in small agricultural watersheds. Fecal pollution has the potential to negatively impact public health through the contamination of recreational, shellfish harvesting, and potable water supplies.

Often fecal coliform, a type of bacteria found in the intestinal tract of warm-blooded animals, is used as an indicator of fecal pollution. There are, however, uncertainties associated with this. Fecal coliform can be used to indicate the presence of fecal pollution but not identify its source(s). These sources can be, in general terms, stationary or transient within a given region. Stationary sources include migrating waterfowl such as Canada goose, Snow goose, and other wildlife. In many cases, transient sources cannot be identified and are consequently not considered in Total Maximum Daily Load calculations.

Recently developed MST techniques have the ability to identify and differentiate between the origin of fecal pollution but not identify its source(s). These sources can be, in general terms, stationary or transient within a given region. Stationary sources include migrating waterfowl such as Canada goose, Snow goose, and other wildlife. In many cases, transient sources cannot be identified and are consequently not considered in Total Maximum Daily Load calculations.

Dr. Oropota and Mr. Rusciano have also been busy in Monmouth and Union Counties. Over 70 Monmouth County Master Gardeners have been trained through the Rutgers Cooperative Extension (RCE) Water Resources Program and will be holding a number of projects within each municipality. Each project is ranked, the cost of each BMP is expected to recharge is provided. Plan B recommends educational programming that can be used to achieve the water quality and quantity objectives. Plan B also discusses the creation of stormwater utilities and how these utilities can be used in these watersheds. Pathogen track down and biological stressor identification are also recommended in Plan B. Finally, Plan B identifies specific projects within each municipality. Each project is ranked, the type of best management practice is described, the cost of each BMP is expected to recharge is provided. Additionally, the permitting needs are given for each recommended practice, as well as potential funding sources.

The recommendations made in Plan B are more unique to the specific watershed that the plan addresses. During the earlier stages of characterization and assessment of these watersheds, issues that are specific to the watershed are identified and projects intended to mitigate their impact are recommended. These projects have been quantified as to their impact on water quality, water quantity and groundwater recharge. Other aspects of implementing these projects were also addressed, such as cost, permits required and objectives that are met when the project is implemented. These specific recommendations can be utilized by the municipalities within the watershed as mitigation projects, or they may use them as steps toward more effective management of stormwater in their watershed.

These Regional Stormwater Management Plans are very comprehensive and contain solutions to the problems that are being faced in each of these watersheds. The next step is for the Lead Planning Agencies for each plan (the Whippinny River Watershed Management Group of the Troy Brook and the Union County Engineering Department for the Robinson’s Branch) to formally submit these plans to NJDEP for adoption.