

HELPING NEW JERSEY'S MUNICIPALITIES BECOME MORE SUSTAINABLE THROUGH CONSERVATION

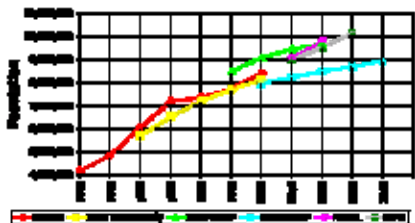
Christopher C. Obropta, Ph.D., P.E., Elaine Rossi-Griffin, and Katie Barnett

SITUATION

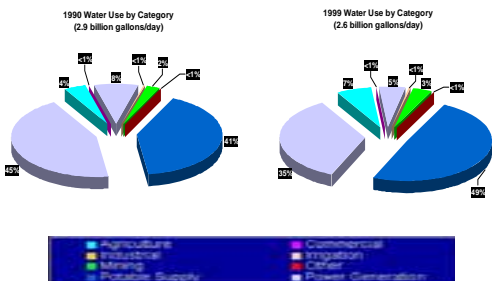
As New Jersey's population continues to grow and the effects of climate change result in longer periods of drought, more must be done to safeguard a sustainable water supply. It is estimated that the average New Jersey resident uses 100 gallons of water per day (gpd), a number which in some cases reaches 185 gpd during the summer months. Even in areas where water seems abundant, water conservation is important. Efforts need to be made to change people's behavior to encourage them to conserve water. When landfill space started to become limited, the country began recycling. Recycling programs began in the elementary school classrooms where children were taught about the importance of recycling. The children then took these important lessons home and taught their parents. We need to begin similar efforts for water conservation. We need to educate the children so they can teach their parents. This is the way we change behavior and conserve water.

WHY NEW JERSEY?

The "Water Rich" Fallacy - Despite an average of 44 inches of rainfall annually, New Jersey is vulnerable to water supply shortages. Especially, when considering that New Jersey is the most densely populated State in the United States.



With an increased population and an increased desire for a lush green lawn, New Jersey is seeing a big jump in potable water use.



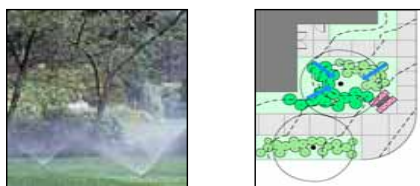
ACTION

The Rutgers Cooperative Extension Water Resources Program, in partnership with the New Jersey Department of Environmental Protection (NJDEP), received a grant from the United States Environmental Protection Agency to develop a Water Conservation Pilot Program for New Jersey. As part of this effort, three water conservation programs are being developed to help promote responsible water use.

1. Water Conservation in the Classroom will teach K-12 students about water waste in schools and about the importance of water conservation. Some schools will be selected to receive plumbing retrofits and upgrades, while other schools will receive water aerators and automatic shut-off devices for faucets. This program will provide teachers, staff, and students opportunities to work together to use the school, grounds, and the community as a learning tool to help teach environmental conservation practices in an effort to promote environmental sustainability. An important component of this program is the take home message. Students will have an opportunity to apply their knowledge about ethical water practices at home with their families.



2. Landscaping for Water Conservation will demonstrate Smart Irrigation Controllers. This technology uses site information such as plant type for each zone, soil moisture, precipitation rates, slope measurements, and sprinkler system output so that watering times and frequency are adjusted accordingly. Educational programming will coincide with demonstration projects and will include how to spot a leak and what to do about it; how to adjust your watering schedule to fit the season and only watering the lawn when it needs it; using efficient water systems for shrubs, flower beds, and lawns as well as how to design and build rain gardens and utilize principles of xeriscaping.



3. Retrofitting Public Buildings for Water Conservation will help reduce municipal expenditures and capital investments by retrofitting older fixtures. As demonstration projects, several public buildings will be retrofitted with water saving devices. Older inefficient toilets and urinals will be replaced along with water fountains and faucets. Additionally, smart controllers will be installed on irrigation systems to better control the watering of lawn areas. Finally, cisterns will be installed to capture stormwater for non-potable uses.



IMPACT

The overall goal of the Water Conservation Pilot Program is to reduce water use by 10% in five pilot communities: Belmar Borough, Monmouth County; East Greenwich Township, Gloucester County; Egg Harbor Township, Atlantic County; Livingston Township, Essex County; and Rahway City, Union County. The lessons learned from the pilot program will be disseminated through New Jersey by Rutgers Cooperative Extension so that other communities can follow these examples.



FOR MORE INFORMATION

Christopher C. Obropta, Ph.D., P.E.
Associate Professor

Rutgers Cooperative Extension
14 College Farm Road
New Brunswick, NJ 08901
Phone: 732-932-9800 x 6209
E-mail: obropta@envsci.rutgers.edu

Elaine Rossi-Griffin
Program Coordinator

Rutgers Cooperative Extension
14 College Farm Road
New Brunswick, NJ 08901
Phone: 732-932-9800 x 6129
E-mail: erossi@aesop.rutgers.edu

Katie Barnett
Senior Environmental Specialist

New Jersey Department of Environmental Protection
401 East State Street, PO Box 426
Trenton, NJ 08625
Phone: 609-633-0764
E-mail: katie.barnett@dep.state.nj.us

