

## Turf Management for a Healthier Lawn

### Situation



In New Jersey, it is estimated that the average resident uses 100 gallons of water per day (gpd). During the warmer months of the year this average daily water use dramatically increases and can climb to as much as 185 gpd during the summer months. As more and more of New Jersey's landscape transitions to residential developments using turf as the dominant land cover, there is increasing concern with the way turfgrass is managed and its effects on soil health, surface water and groundwater pollution, and the depletion of drinking water supplies.

In many areas of the state, property developers are commonly placing little or no top soil on newly developed residential and commercial lots. A relatively small expenditure is needed to create a balanced soil composition that will sustain and grow healthy turf and landscaping that will not require excess water or fertilizer. However, when developers begin to establish turf seed in areas with little to no top soil, the purchaser of the property is often burdened with years of expensive rehabilitation, including increased and sometimes unnecessary applications of water and fertilizers, which contribute to nonpoint source pollution.

In East Greenwich, many new developments have been affected by this practice. Since many new developments are being constructed on farmland, top soil is being stripped, and little attention is being paid to the soil composition prior to seeding. The result has been inefficient use of poor soils that will not allow penetration of the water or fertilizer, creating a situation of water waste and runoff.

### Action

New Jersey Water Savers has partnered with the Brickman Group to recreate two lawns in a healthy, sustainable nature for use as demonstration and study sites. To rectify the issue created by the soil stripping, a two-month-long process of killing off invading weeds, installing 55 yards of compost, preparing the soils, and hydro-seeding is necessary. One of the two demonstration sites will also feature a water efficient Smart Irrigation System that accounts for soil moisture and atmospheric conditions when scheduling and applying water. The second project will be completed without an irrigation system.



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Another component of the Turf Management for a Healthier Lawn program was a workshop offered free of charge to residents in Egg Harbor Township, East Greenwich and Belmar. This workshop provided best management practices to homeowners and businesses in an effort to change their landscaping practices to use water more efficiently. This program measured prior knowledge, as well as behavioral change.

Additionally, a website (<http://saalem.rutgers.edu/nre-turf/>) was developed to serve as a stable source of information on environmentally-friendly lawn care practices for homeowners. The website contains links to over 20 publications and websites, giving information to homeowners on good lawn care practices with an emphasis on reducing water use and preventing nonpoint source pollution. The sited publications range in scope from simple brochures to rather comprehensive turf maintenance manuals. Topics covered include environmentally-friendly lawn care, liming and fertilizing, pest management, and pesticides. Additionally, the website serves as a repository for class materials for the Turf Management for a Healthier Lawn courses.

### Impact

It is believed that significant water savings can be achieved by integrating water conservation with landscape principles, however a process such as this is typically very costly and financially burdensome to new homeowners. The cost for this type of project can range from \$25,000-\$35,000 to renovate just one-acre of property. A more cost-effective approach would be to utilize proper landscaping techniques that minimize nonpoint source pollutants, such as fertilizers and pesticides.

Educating homeowners about the importance of good practices, however, may be more difficult than educating professionals landscapers because homeowners may have less knowledge about horticulture. Motivating homeowners to adopt good lawn management practices will likely depend on addressing their values to effect behavior change. Education tactics might change, for example, if a group of homeowners value more environmental conservation, as opposed to an aesthetically perfect lawn. By adopting such practices, the homeowner will be able to save money and protect themselves and their family from unnecessary exposure to lawn chemicals. Additionally, municipalities may want to consider adopting ordinances that prevent soil stripping in their towns.

New Jersey Water Savers Partnership



New Jersey Water Savers is a partnership between the Rutgers Cooperative Extension Water Resources Program, the New Jersey Department of Environmental Protection, and the United States Environmental Protection Agency. This partnership was created to provide leadership to promote water conservation throughout New Jersey. For more information on our partnership efforts, visit us at [www.water.rutgers.edu](http://www.water.rutgers.edu).