

## WASTEWATER NEEDS SUMMARY

In 2011, our first year as a federally recognized not-for-profit organization, Peconic Green Growth focused its efforts on the impacts of onsite wastewater (cesspools and septic systems) on our environment. With the sponsorship of Legislator Edward P. Romaine, Peconic Green Growth was awarded a \$5,000 grant under the Community Support Initiative for establishing a methodology for identifying decentralized wastewater needs based on environmental conditions. The document aims to advance the recognition and acceptance of this need in Suffolk County at all levels of government. With the wholehearted cooperation and support of the Town of Southampton and its Planning and GIS departments, the report evaluates the town's vulnerability to the impacts of onsite wastewater. Patagonia Inc. awarded us a grant to support our outreach on this important topic in 2012. The methodology acts as the first steps for planning for and prioritizing improved decentralized wastewater treatment in our efforts to integrate vibrant communities with a health environment.

### Issue:

Clean water resources are especially important for Suffolk County, with its water-dependent economy founded in maritime, agricultural and resort industries. Suffolk County relies on a federally designated Sole Source Aquifer system for drinking water for its 1.45 million residents. The aquifers are recharged by precipitation and wastewater only. Its 990 miles of coast line two estuaries of national importance under Section 320 of the Clean Water Act. The two nationally recognized estuaries, Peconic Estuary and the Long Island Sound Estuary. Many of these waters are becoming impaired at an alarming rate (almost all of the South Shore and the western sections of the Peconic Estuary). In April of 2012, the earliest outbreak of saxitoxin closed the shellfish beds in the Mattituck Inlet. Anthropogenic Organic Nutrients (human wastewater source) is constantly surfacing as the main culprit in nitrogen nutrient loading. Studies by Christopher Gobler at Stony Brook, Southampton Marine Sciences program clearly identify wastewater as the most significant cause of harmful algal blooms in estuarine waters. By measuring isotopes in eelgrass, the Southern New England and New York Eelgrass Research and Restoration Initiative has identified wastewater as the major source of nitrogen in our local waters.

The vast majority of buildings on the East End of Long Island use onsite wastewater treatment systems. The septic systems built to code produce nitrogen at a concentration of 40-60 mg/l. Current policies use dilution controlled through minimum lot sizes to reach an average concentration of 4-6 mg/l, which is under the Maximum Contaminant Level of 10 mg/l used for drinking water standards. There are two main issues with this policy. First, the target contaminant levels for drinking water far exceed the 0.3 - 0.45 mg/l levels identified as necessary for a healthy marine environment. Second, being an area that has older settlements, most of the lot sizes in the established communities are smaller than and therefore nonconforming to the one-acre minimum currently used by the Suffolk County Health Department to reach drinking water standards. In fact the North Fork has some of the highest nitrogen levels in groundwater found in Suffolk County, as discussed in the Draft of the Suffolk County Comprehensive Water Resources Management Plan (SCCWMP) prepared in 2010. Also, background rates of nitrogen are increasing at an alarming rate. In just eighteen years all three aquifers have evidenced significant increases (39% increase in the Upper Glacial, 201% in the Magothy, and 183% increase in the Lloyd Aquifer). Studies in Rhode Island, which has geology similar to Long Island, have found lot sizes of two acres to still have a negative impact on waters. If a target of 2 mg/l is used, minimum lot sizes of 2-3 acres are needed to attain 2 mg/l, and 8.5-13.6 acres to attain maritime optimum levels. *Therefore most of the current settlement patterns are such that nitrogen loading exceeds healthy water standards.* To further compound the issue, while the East End has some of the lowest overall densities of Suffolk

