PECONIC GREEN GROWTH

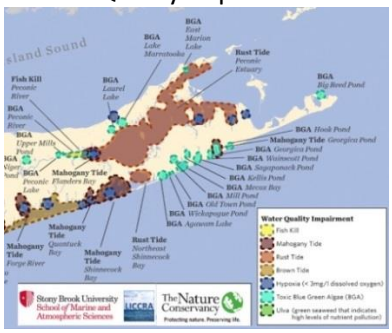
SPRINGS Fact Sheet

TOWN OF EAST HAMPTON

Water sustains life and symbolizes purity. But water quality is degrading. Our ground and surface waters need protection. The aquifers are not only sources of drinking water, but flow horizontally to surface waters, impacting the marine health of our bays. Excess nitrogen compounds are a critical cause of algal blooms, which lower oxygen levels, create toxins, and ultimately cause fish kills. Contaminants of emerging concern, such as pharmaceuticals and personal care products, need to be treated before being released to ground and surface waters. Poor water quality will ultimately impact community character and vitality, which are especially relevant for our coastal and tourist economies.

The following is a snapshot of local issues that impact excess nitrogen loading. More detailed maps are available at http://peconicgreengrowth.org/community-maps-2014/ where you can find the areas needing priority action, as well as identify conditions relevant to your home. Visit our website to learn about options for upgrading your wastewater system to help protect your environment.

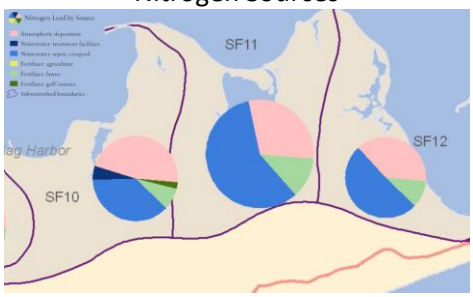
LI Water Quality Impairments 2016



EXCESS NITROGEN (N) LOADING

- Excess nitrogen compounds can be harmful to human health.
- Our surface waters are 20 times more susceptible to N loads than maximum contaminant levels for drinking water.
- Excess N feeds algal blooms, which in turn create toxins. These impact fish and shellfish formation and survival rates.
- Excess nitrogen contributes to declines in eel grass and wetland grass beds. Their loss impacts marine habitats and reduces their usefulness as property buffers in storms.
- The algal blooms are becoming more numerous and potent.

Nitrogen Sources



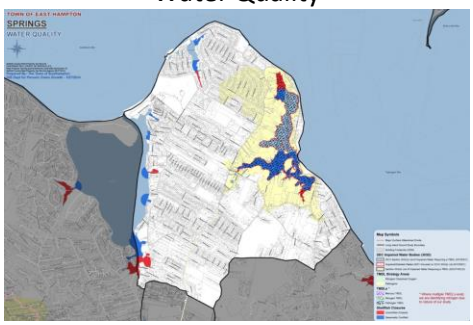
Courtesy TNC and Prof. Christopher Gobler

SOURCES OF EXCESS NITROGEN

Springs lies in two subwatersheds. It shares subwatershed SF11 with Northwest Harbor and shares SF12 with Amagansett. SF11 is responsible for 6% of all the nitrogen loading in the Peconic Estuary (of 43 subwatersheds) and SF12 for 3.5%. For SF11 nitrogen sources are estimated as coming from:

65%	septic/cesspool systems
24%	atmospheric deposition
10%	fertilizer from lawns
1%	agriculture

Water Quality



SPRINGS WATER QUALITY

- Rust Tide (algae) and hypoxia have appeared repeatedly in Three Mile Harbor. Hypoxia has occurred repeatedly in Accabonac Harbor, with rust tide occurring in 2014.
- Nitrogen levels are worsening over time in Three-Mile Harbor.
- Duck Creek and small sections of Three-Mile Harbor, Accabonac Harbor, and East Harbor are closed to shellfishing.
- Sections of Accabonac and East Harbors are certified for seasonal harvesting of shellfish.
- A TMDL for pathogens exists for Accabonac and East Harbors.

651 West Main Street Riverhead, NY 11901 T 631 591 2402 www.peconicgreengrowth.org

This summary was funded by a grant from the Long Island Community Foundation.

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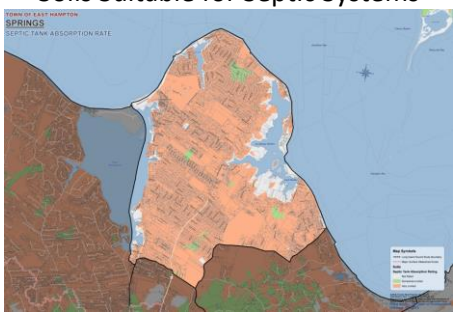
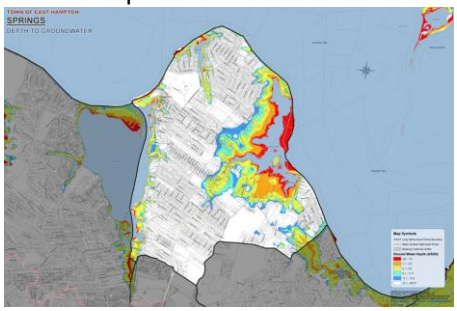
TOWN OF EAST HAMPTON

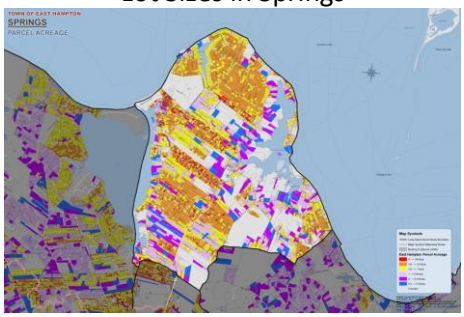
Soils Suitable for Septic Systems



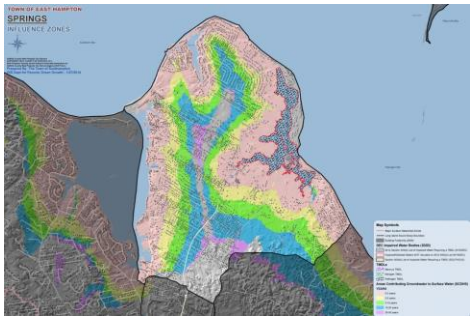
Depth to Groundwater



Lot Sizes in Springs



By 2080 we estimate that 80 buildings in Springs will be inundated.



CESSPOOLS VS. SEPTIC SYSTEMS

CESSPOOLS, which are often found on properties developed before 1973, dispense all wastewater with no treatment directly to the ground. Dissolved solids, contaminants and pathogens can percolate to groundwater. The current code requires SEPTIC SYSTEMS, which places an enclosed tank before the leaching pits (which resembles a cesspool) or field. In the tank, fats rise and solids settle to the bottom, where microbes treat the solids. Clarified effluent is dispensed, with 10% of nitrogen mitigated. New, enhanced systems can lower nitrogen levels by 50 – 90%. 4,574 buildings (96%) in Springs are on soils considered very limited for onsite wastewater treatment.

DEPTH TO GROUNDWATER and FLOOD/SLOSH ZONES

The Suffolk County Sanitation Code (SCSC) requires a 3-foot separation distance from the bottom of wastewater systems to groundwater to allow for natural treatment and filtering of effluent. When groundwater is less than 7 feet below grade, there can be difficulties siting the system. Where depths to groundwater are less than 13 feet, systems are likely to become noncompliant as groundwater elevations rise due to climate change. In Springs 1,069 buildings (22%) have depths to groundwater of less than 13 feet. 21% are in SLOSH zones.

SMALL LOT SIZES

In Springs **43%** (1.813) of the developed lots are **nonconforming** to the 20,000 SF (nominal half-acre) minimum lot sizes SCDHS requires to dilute wastewater to acceptable contamination levels for drinking water. If a community relies on individual wells, this minimum lot size is even larger – a nominal one acre. The contaminant concentrations discharged from these systems are higher than code. 384 developed parcels (9%) are less than ¼ acre in size.

CLIMATE CHANGE

By 2080 an estimated 490 buildings in Springs will likely have their wastewater treatment systems compromised due to inadequate horizontal distances to surface waters.

INFLUENCE ZONES

Denoting the Time it Takes Groundwater to Reach Surface Waters

1,746 or **37%** of the buildings in Springs are in the "Pink Zone," where it only takes 0-2 years for groundwater and contaminants to reach surface waters. It makes sense to prioritize improvements in the "pink" zone, as the beneficial impacts will be felt more quickly.

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