

# Water we Going to Do?

## EXECUTIVE SUMMARY

**THE CASE FOR PROTECTION AND COMPREHENSIVE MANAGEMENT**

**OF**

**LONG ISLAND'S DRINKING WATER AND SURFACE WATER**

A Grassroots Initiative

to Create

***The Long Island Clean Water Partnership***

and

Restore and Protect Long Island's Water Resources

## Problem Statement

On Long Island, our economic prosperity, public health and safety, and quality of life rely upon a clean and sustainable supply of drinking water. Similarly, as an island blessed with bays, harbors, and beaches on every shore, the quality of our surface waters defines our outdoor experience. Without these assets, Long Island would lose its unique sense of place and a substantial portion of its economic well-being. Protection and restoration of our Long Island water resources will define our future as a community in the next decade.

Our quality drinking water and our surface waters share a vital connection. Our underground aquifers store our only source of fresh drinking water for the 2.8 million people living in Nassau and Suffolk Counties. These aquifers are not static; they slowly flow from high ground to low, recharged by rainfall from above and they supply the majority of fresh water entering our streams, lakes, and bays. Whatever goes into our underground aquifers will eventually reach our other water resources: the bays and harbors, lakes, ponds and streams that define our Island. The future of Long Island's water resources depends upon what's happening under our yards, parks, farm fields, roads, and downtowns.

All science now conclusively shows that deteriorating water quality in our underground aquifer does not bode well for our future. We are already seeing many of the negative impacts at the surface, and we know for sure that if we stay on our current trajectory things will get worse. These impacts are perhaps most dramatically represented by groundwater plumes contaminated with volatile organic compounds (VOC's), which can often be traced back to specific legacy industrial sites, dry cleaners, and gas stations. But there are other serious emerging concerns as well.



Long Islanders have made considerable investments in land protection to help safeguard our underground water supply; water authorities work hard to assure that the water delivered to our homes meets the known safe drinking water standards. Had we not made these investments things would be much worse. But we now know that none of this has been enough to protect the integrity of our underground aquifers or the surface waters that help define our communities.

Long Island water suppliers strive to pump the cleanest water they can find out of the ground, and yet more and more frequently, they must utilize expensive processing methods to meet federal safety standards before delivering it to our homes and businesses. In our homes we drink some, and the rest we load with detergents and solvents, we use it to flush our toilets, and we add fertilizers and pesticides to it while irrigating our lawns. The water we return from our homes to our aquifers or, via sewer systems, discharge to our surface waters, is in a compromised state. With 2.8 million people now living in Nassau and Suffolk this is not only unwise, this is unsustainable.

Recently published studies show clearly that much of Long Island's shallowest aquifer (the upper glacial) is simply no longer safe to drink. Nevertheless, it remains a major source of the fresh water flowing into the bays and harbors where we swim, fish, and shellfish. The deeper aquifer, the Magothy, the source of most of our drinking water, is experiencing an alarming increase in contaminants like nitrogen and pesticides. For example, in Suffolk County in just an 18 year span, between 1987-2005, there was an average 200% increase in nitrogen pollution to the aquifer; this pollution is directly tied to development patterns, land use trends, and residential septic systems.

Coastal communities have tapped into our deepest and oldest of aquifers (the Lloyd aquifer). However, this ancient aquifer is small and water is currently being withdrawn from it at rates that are already resulting in salt-water intrusion of wellheads, jeopardizing water supplies of tens of thousands of residents in places like Long Beach and Great Neck.

This increasing nitrogen pollution in our aquifers flows into our surface water, adversely affecting our environment and our quality of life, our economy, and our health and safety. Nitrogen pollution damages the health, stability and integrity of western Long Island salt marsh islands. These salt marsh habitats for fish and wildlife also blunt the force of storm waves and protect coastal properties from some storm damage. Nitrogen pollution kills seagrass meadows in places like eastern Great South Bay and western Shinnecock Bay. That once-expansive seagrass habitat nurtured a long list of economically important fish and shellfish. Nitrogen pollution fuels and sustains harmful algal blooms in Great South Bay, Shinnecock Bay, Moriches Bay, Northport Harbor and Peconic Bay. Some harmful algal blooms are acutely toxic to people and wildlife. Elevated nitrogen loading is also fueling the growth of weeds and macro algae that choke lakes and ponds and smother western beaches and shorelines in smelly, rotting mats of sea lettuce. Increasing levels of nitrogen pollution cause aquatic dead zones, without any life-giving oxygen for fish and shellfish, in places like western Long Island Sound, Forge River, and Hewlett Bay. The number of Long Island's federally listed "impaired water bodies" continues to grow. The collapse of aquatic ecosystems in these places is a serious threat, already affecting our fisheries and our water dependent economies in ways that regularly prompt public





expenditures aimed at addressing symptoms. Yet collectively we have largely failed to address the underlying causes of these problems – nitrogen pollution.

Long Island has only one drinking water supply and nature stores it underground, beneath the land we live on. The enduring quality of this water needs to be protected to secure our health and our future. By doing so we can also protect our surface waters, our quality of life, and our coastal and maritime economy. But right now, unfortunately, we know for sure that there is no adequate plan, process, or agency protecting our waters; the quality of our water continues to get worse.

Modern science is helping us to understand and document the sources and consequences of nitrogen pollution in our water supply. As a consequence we know we must reduce nitrogen pollution or it will continue to erode the natural resources that make Long Island a beautiful and vibrant place to live, work and visit. Disturbingly, the consequences of some of the other contaminants entering our water supply are less certain. In some cases EPA has determined human health safety standards for exposure to individual chemicals and pesticides. However, for most chemicals and pesticides we do not have documentation for the long-term human health and environmental impacts of chronic exposure to a low dose cocktail of chemicals and pesticides in the water we drink and bathe. We must therefore be more cautious about the chemicals we allow to enter our water supply. Without doubt there are simple steps that should immediately be taken to reduce impairments to our groundwater. We can, for example, assure that solvents and pharmaceuticals are disposed of in ways that keep them out of our water. But we know more is needed to maintain the purity and safety of our water supply.



The ongoing degradation of Long Island's drinking water and surface waters affects all of us. We pay more money to water authorities to treat our water to meet EPA drinking water standards. We are at risk from 117 pesticides that are known to be in our water supplies, without a clear understanding of how this is affecting the health of our families. Our maritime economy is already struggling with the loss of important habitats and fisheries. Residents and visitors are reluctant to spend time in polluted waterways, dine at waterside restaurants that smell of rotting seaweed, or live in seaside communities where it is no longer safe to swim in the local waterways. If we make necessary investments to improve and protect our waters we will protect our health and we will see economic and quality of life dividends as the health of our waterways improve. Long Island only has one water supply. To remain a vibrant, attractive, and healthy place to live, work and visit we need to address the underlying causes of our water woes.

# Water Action for Long Island

## Statement of Ten Water Protection Principals

1. Reduce fertilizer loads, and require advanced treatment upgrades to sewage treatment plants and septic systems (providing at least a 50% reduction in nitrogen over conventional systems) so nitrogen pollution does not exceed 2 mg per liter for groundwater entering our bays and harbors.
2. Establish an adequately funded, unified regulatory entity for Long Island's water-resources management.
3. Develop and implement a comprehensive, effective, enforceable, and affordable clean-water action plan for Long Island. This plan should include enforceable regulations with measurable goals and consequences for agencies and municipalities that fail to protect water quality.
4. Assess wastewater treatment performance and technological advancement. Develop a septic-system upgrade program to accelerate the deployment of advanced and decentralized treatment systems.
5. Create a "State of the Aquifer" report.
6. Develop public education strategies that include elected leaders and policy makers.
7. Complete and implement the *LI Pesticide Use and Management Strategy*.
8. Create and advance a land-protection plan focused on water quality and watershed protection.
9. Enact legislation for proper disposal of unwanted pharmaceuticals.
10. Household Hazardous Waste (HHW) products and related practices (fertilizers, pesticides, pharmaceuticals, septic system maintenance, etc.) all affect water quality. Citizens and civic, business, academic, and non-governmental organizations must engage all levels of government to advance the education and awareness necessary to change daily behaviors. Citizens and businesses must phase out the use of HHW products and find and develop suitable alternatives.

The Nature Conservancy   
Protecting nature. Preserving life.™



LONG ISLAND  
PINE BARRENS  
SOCIETY

[www.citizenscampaign.org](http://www.citizenscampaign.org)

[www.groupfortheeastend.org](http://www.groupfortheeastend.org)

[www.pinebarrens.org](http://www.pinebarrens.org)

[www.nature.org/longisland](http://www.nature.org/longisland)

GROUP   
FOR THE EAST END

