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TESTIMONY FOR NEW YORK STATE ASSEMBLY LEGISLATIVE HEARING ON DRINKING WATER PROTECTION FOR LONG ISLAND

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Testimony by Adrienne Esposito, Executive Director

In 1978, the US EPA determined that the Long Island aquifer system is the sole source of drinking water for Nassau and Suffolk County and if this source of was contaminated, it would create a significant hazard to public health. All of Long Island's groundwater is classified by the New York State Department of Environmental Conservation (DEC) as G.A. and a policy of anti-degradation has been established. But what has the state done to assist Long Island in this important challenge and this goal? Well, not very much.

Today we know contamination to our groundwater threatens public health, as well as contaminates our surrounding rivers, estuaries, and bays. We depend on healthy rivers, estuaries, and bays for tourism, recreation, and a healthy economy. The Long Island Sound generates $8.5 billion annually to our regional economy and the South Shore Estuary Reserve supports 3,000 water dependent businesses that employ nearly 30,000 people. In a recent study, Long Island's parks and protected open space are key economic drivers that contribute at least $2.74 billion annually in economic benefits[1].

I am hopeful that today's hearing will assist us in determining how to craft and implement a comprehensive plan; a plan that protects our source of drinking water, with the clear objective of protecting the quantity and quality of drinking water. **We need a "Water Protection Plan for the Next Generation."**

1. A Holistic Water Protection Plan for Long Island

Long Island needs a holistic water protection plan for our aquifer system. Currently we have a system that promotes a disjointed, clumsy and self-serving approach to water use and water management. Nassau County has over 40 water districts and Suffolk County has 12. The more water is used and sold, the more revenue generated for individual water districts or water utility companies. This flies in the face of needed water conservation that is a necessary component of managing our aquifer system. Suffolk County Water Authority is a compelling example of how to successfully protect and manage groundwater in a sustainable and cost effective manner. SCWA should be used as a model. **We need a Long Island Water Authority**. We need to

[1] "The Economic Benefits and Fiscal Impact of Parks and Open Space in Nassau and Suffolk Counties, New York," A Report by the Trust for Public Land, 2010.

consolidate our water districts and water utilities. We need the state to step in and step up to establish water quality and quantity standards that ensure public health, health bays and long term sustainability of water. This would allow for the crafting and implementation of policies that protect the resource and prevent the rampant exploitation of water that is propelling us towards a precarious future. It is time to get serious about drinking water protection.

2. The Long Island Comprehensive Special Groundwater Management Plan (SGPA)

In 1992 the Long Island Regional Planning Board released **The Long Island Comprehensive Special Groundwater Protection Plan.** This plan mapped out the last remaining deep flow recharge zones left on our island. It also provided some detailed recommendations for long term protection. Referred to as the SGPA Plan, it was considered a landmark document on how to protect water resources throughout Long Island. Unfortunately, as an advisory document, it does not carry the weight of law and therefore key recommendations are routinely ignored. For instance, the SGPA identifies 9 deep flow regions on Long Island that should be provide extra protection due to the critical role they play in groundwater recharge. However, since all zoning is local, there is no incentive for Villages and Towns, who have jurisdiction over these lands, to actually protect them. Two prime examples:

- The **Village of North Hills** contains one of the two SGPAs in Nassau County. In 2005, a developer proposed building Catham 2, a 60 condo project on a site known as Grace Forest. This 18 acre forest was essential to Nassau's long term water protection. CCE worked to educate the Village Trustees and the Mayor, but in the end, they had the choice to preserve the land for the good of the County without compensation or develop the land and generate tax revenue. Guess which option they chose. Good bye Grace Forest. Good bye North Hills SGPA.

- The **Oak Brush Plains** is one of only two SGPAs remaining in western Suffolk. This property is scheduled to be developed with the Heartland Project. Two years in a row the NYS Legislature worked to pass a simple bill that would allow this 80 acre parcel of land to be preserved and incorporated into the Edgewood Preserve. In 2009, the bill passed the Senate and Assembly, only to have been vetoed by Governor Patterson. Why? Because the state continues to pursue siting an intermodial facility there. When did drinking water protection become so unimportant to the state of New York? How did an intermodial become more compelling than clean, safe drinking water? Frankly, the state should be ashamed of themselves and I want to be clear, CCE will NOT allow an intermodial on the SGPA. Not on our watch.

The Special Ground Water Protection Plan contains many protective recommendations that should be established with the force of law. For example

- The State and the County Health Departments should expand monitoring and enforcement activities with SGPAs

- The State should assist Long Island in accessing funding for the expansion of existing STPs is areas where existing unsewered development has impaired or threatens to impair groundwater and surface waters.
- Monitoring of industrial discharges into septic systems and stormwater recharge basins needs to be established.

3. Land Preservation

One critical result of the Suffolk County Draft Comprehensive Water Management Plan is the noteworthy finding that water quality in protected areas is of a high quality. The single best action we can take to protect our aquifers is to preserve land. This is a scientific fact. Yet, we are still drawn into the absurd discussion of the value of preserving land. Preserving land on Long Island is preserving drinking water quality and quantity. The Counties and Towns can not do it alone. The State cannot and should not abandon the land preservation program. Preserving land on Long Island is not a luxury item that can be dispensed with in hard economic times, but rather a necessity that the public needs and deserves. The land category in the Environmental Protection Fund needs to be funded and Long Island needs to be receiving our fair share.

4. Stop pesticide contamination into our aquifers

Pesticide contamination is a serious threat to our ground and surface waters. There are more than 95 pesticides detected in Long Island's groundwater[2]. In 2005 alone, 5.2 million pounds and 367,000 gallons of pesticides were applied in Nassau and Suffolk Counties by commercial applicators[3]. This does not include any application of common aesthetic pesticides used by homeowners across the Island. As of November 2010, 13,150 pesticide products are registered for use in NYS. Three hundred and twenty eight of these products are prohibited from any use on Long Island and 152 are conditionally permitted for use, since they have a high potential to contaminate groundwater. However, more needs to be done to ban the most harmful pesticides and protect our water resources. There are still certain pesticides that can readily enter into our groundwater system, once in the system they can remain there for decades.

Significant findings of the *Suffolk County Draft Comprehensive Water Management Plan* include:

- **Pesticides are found in almost one out of every four community supply wells and the number of pesticide contaminates is increasing.**

- SCDHS found 140 community supply wells (approximately 23 percent of the wells sampled) were impacted by pesticide-related contaminants during the period from 1997 through 2006.

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[2] Draft Long Island Pesticide Use Management Plan, NYS Department of Environmental Conservation, 2010, pg 9.
[3] NYS Department of Environmental Conservation, Pesticide Reporting Law (ECL Art 33, Title 12) Statistics; www.dec.ny.gov/chemical/37855.html www.dec.ny.gov/chemical/37851.html

- The public and private well data compiled for selected pesticides from 1980 through 2006 demonstrates that several common agricultural pesticide chemicals can persist in groundwater for decades and that pesticide degradates are detected more frequently and in higher concentrations than some parent compounds.

- Pesticide contamination in Suffolk County is primarily associated with agricultural land use, although additional sources are associated with residential, commercial or institutional lawn care. Pesticides were detected in 12 of the 29 well fields whose historical land uses were evaluated in detail during this study;

CCE Recommendations;

a. NYS should take immediate action to ban the use of Imidacloprid.

Imidacloprid has just come off its patent and thus can be found in hundreds of products. It's used on lawns, turf, golf courses, gardens, farms, pets, ornamental plantings, and in households. Yet, it has a strong potential to contaminate ground water, since it can leach quickly through soils. It is toxic to fish and crustaceans. Although studies clearly show a strong potential for this pesticide to contaminate waters, EPA did not classify imidaclprid as a restricted use product. EPA cited the following:

> "We are not recommending that the turf and ornamental products be classified as restricted use products due to ground water concerns for several reasons. First, several of the proposed NTN products contain directions for use around the home and a Restricted Use Classification would not allow sale of these products to the homeowner. Second, professional lawn care companies will be users of these products and they will not use a Restricted Use Product[4]."

CCE objects to this illogical conclusion. Imidacloprid has been detected in regional groundwater during the past 11 years, with the first detection occurring in April 2000, only five years after it was first registered for Long Island use in March 1995. Of particular concern to groundwater is this chemical's use to control white flies in the greenhouse industry. Since there are no chemical specific New York State drinking water standards for imidacloprid, based on its chemical structure it falls under the 50 micrograms/liter (parts per billion, ppb) New York State drinking water standard for an "unspecified organic contaminant" (NYCRR Part 5 - Public Water Systems). It has been detected in hundreds of potable water supply wells and monitoring wells on Long Island, and has been found in concentrations as high as 407.0 ppb - far in excess of the 50 ppb drinking water standard. The continued use of imidacloprid by pest management professionals will likely extend the duration of any long-term impacts on Long Island groundwater.

[4] US EPA. 1994. Registration for imidacloprid (NTN 33893). Memo from SJ Johnson, Registration Div, to DD Campt, Office of Pesticide Programs. Washington DC, March 10.

NYS should take immediate action to ban this toxic chemical, or at the very lease to ban it's use in a sole source aquifer region such as Long Island.

b. **New York State should require that the DEC ensure that pesticides characterized as "a likely future groundwater contaminate" should not be allowed for use in Nassau and Suffolk Counties.**

Nearly 3 million residents throughout Nassau and Suffolk County rely on Long Island's sole source aquifer for drinking water. It is critical that every step necessary is taken to protect and preserve this vulnerable source of our drinking water.
In one groundwater monitoring report that involved the testing of 834 private and non-community drinking water wells on Long Island, it was found that pesticide-related compounds were detected in 422 (50.6%) of the wells. Once a pesticide enters the groundwater it is difficult to remove and can contaminate groundwater for decades. For example, when the pesticide aldicarb (Temik) was banned on Long Island, concentrations in the groundwater continued to increase for 20 years.

c. The NYS Legislature should compel the DEC to complete the process of revising the Long Island Pesticide Use Management Plan.

CCE was invited to serve on the Technical Advisory Committee to revise the Long Island Pesticide Use Management Plan in August 2010. While we understand this is a lofty endeavor and staff size at the DEC has unfortunately greatly diminished, this process needs to commence. Preventing unnecessary pesticide contamination of our groundwater is safer and cheaper. The process of revising the planning document should continue without further delay.

5. Volatile Organic Chemical (VOC) Contamination

Contamination by volatile organic compounds (VOCs) and pesticides have been identified as a serious threat to groundwater quality (Dvirka and Bartilucci, 1987, CDM,1998). The three most frequently detected VOCs in Suffolk County groundwater are tetrachloroethene (PCE), trichloroethene (TCE) and 1,1,1-trichloroethane (TCA). In addition, contaminants of concern include perchlorate, MTBE and pharmaceuticals and personal care products (PPCPs).

The Draft SCWCMP identifies the following critical testing results for Suffolk County's drinking water.

A. Volatile Organic Chemicals are increasing in the Upper Glacial and Magothy Aquifers -

- A comparison of PCE levels in wells indicates that PCE was detected in four times as many wells in 2005 as in 1987.

- In 2005, PCE concentrations in 24 of the 54 wells increased more than 100% from 0.30 to 0.63 µg/L in the 211 upper glacial public supply wells tested. A similar trend is seen in the Magothy wells where average PCE concentrations increased 100% from 0.30 µg/L

to 0.62 µg/L. Only one of the wells sampled in both 1987 and 2005 exceeded the 5 µg/L MCL in 1987, while nine wells in the dataset exceeded the standard in 2005.

- Average TCE concentrations increased 150% from 0.29 µg/L to 0.73 µg/L in the 210 upper glacial public supply wells that were sampled in both 1987 and 2005. A similar trend is seen in the Magothy wells sampled in both 1987 and 2005 where average TCE concentrations increased from 0.33 µg/L to 0.73 µg/L, indicating contaminant flow to the deeper portions of the aquifer. Only one of the wells sampled in 1987 exceeded 5 ug/L MCL in 1987, while nine wells exceeded the standard in 2005, indicating deteriorating water quality.

- TCA was the VOC that had the most widespread distribution throughout the County in 2005. Average TCA concentrations in the Magothy supply wells tested from both years increased slightly from 0.37 µg/L to 0.47 µg/L. Four wells that were sampled in both 1987 and 2005 exceeded the 5 µg/L MCL in both years.

B. House Hold Hazardous Waste - One source of VOC contamination to our groundwater is House Hold Hazardous Waste or HHW. HHW covers a wide range of commonly found household items that contain corrosive, toxic, ignitable, or reactive ingredients. Improper disposal of HHW causes contamination to our environment and threatens public health. All Long Island towns have created various programs to ensure proper disposal. However, HHW collection programs are often inconsistent between different local governments, ill publicized and/or misunderstood. While town websites offer excellent information regarding collection services and specifications, more must be done to increase participation rates in these programs.

Extending this understanding to all residents and ensuring consistent, widely publicized STOP days is the only way to ensure the highest level of participation in these programs, and thus the maximum protection of the delicate systems that underpin our natural environment. This is *especially* true in a place like Long Island, where drinking water, ground and surface water, and a multi-billion dollar maritime economy are put at risk by well-intentioned but poorly executed HHW programs.

The other part of this dilemma is to promote products that are less toxic. The state can and should look at policies where the state and other levels of government purchase the less toxic products and substantially eliminate HHW from inventory. The state can lead the way in altering consumer purchasing patterns.

Recommendation –

- The state can lead an interagency effort in partnership with local governments to education the public as to purchasing non-toxic house hold products.

- The state can pass legislation requiring signage in grocery stores and other point of sale areas to alert consumers of the toxic nature of particular products and safe disposal options. Suffolk County has such a law for almost 20 years and has never implemented it.

6. Toxic Algae Blooms

Unfortunately, harmful, toxic algae blooms have been detected throughout Long Island's estuaries, including brown tide, and 2 types of red tide. These algae blooms when in abundance actually change the appearance of the color of the water. Although research is still ongoing, many algae blooms are believed to be linked to excessive nutrients entering our waters. Nutrients enter our waters through polluted storm water, leaky septic systems, and contaminated groundwater.

Brown Tide was first detected in the Peconic Estuary in June of 1985. It has since spread into the south shore bays. In July of 2008 the South Shore Estuary was hit with the worst brown-tide outbreak in history. Brown tide is a type of algae known as aureococcus anophagefferens. The algae, causes the water body to appear a brownish coffee color, blocking much needed sunlight to the bottom of the bay. Brown tide is not harmful to humans; however, it can be disastrous to marine and plant life. The algae produce a chemical that makes it harder for clams and other bivalves to feed, causing them to starve. The blockage of sunlight to the bottom of the bay kill's sea grasses—important nursery habitat for shellfish and finfish. Brown Tide is not directly toxic to human health, but is detrimental to shellfish, such as the bay scallop and hard clam populations.

There have been two types of **Red Tide** detected in our estuaries: *Alexandrium fundyense* and *Cochlodinium polykrikoides*. The first type, Alexandruim fundyense produces a saxitoxin, which causes a paralytic shellfish poison. This highly toxic algae accumulates in shellfish species like clams and oysters. If the shellfish is ingested, it can be deadly to human. The toxin attacks the human nervous system and cause symptoms from numbing to paralysis. There have been reported fatalities as a result of suffering respiratory paralysis after contaminated shellfish consumption.[5]Causes of the tides, or blooms of the plankton are still being studied, but they are associated with environmental conditions, which favor rapid growth including warm surface temperatures, high nutrient content, low salinity, and calm seas. These are all characteristics of waters found near STPs. In 2010, red tide occurred on both the North Shore in Northport Harbor, and the South Shore in Shinnecock Bay. [6]

[5]Massachusetts Dept. Public Health, 2010
[6] Smith, 2010

The second type of Red Tide detected is Cochlodinium polykrikoides. Before this summer this algae was only detected in the Peconic Bay and eastern Shinnecock Bay[7]. Unfortunately, in August of 2011 a bloom was detected in Patchogue Bay. This harmful algae has been associated with fish deaths. A captive juvenile fish exposed to 1,000cell/ml can survive no more than 1 hour. The samples taken from Patchogue exceeded 1,000cell/ml. Causes of the bloom are unknown.

To combat excessive Nitrogen in our waters NYS should:

a. ***Implement a state-wide law restricting fertilizer applications in the fall and winter months***

In the fall of 2007, Suffolk County signed to law legislation (Resolution 2117-2007) that restricts the use of fertilizers in the fall and winter seasons. This simple restriction significantly reduces the amount of nitrogen polluting our waterways and at the same time it educates the residents of Suffolk County to as to why excessive nitrogen is harmful.

Parts of the legislation state:
"The Legislature further finds that fertilizers are responsible for approximately 50% of the total nitrogen loads to the Peconic Estuary and throughout medium-density residential land use in Suffolk County."

"The Legislature also determines that excess nitrogen inputs result in depressed dissolved oxygen (hypoxia), harming aquatic life, causing excessive algal blooms, and diminishing water clarity to further impair habitat for aquatic plants."

In October of 2006 the Long Island Sound Study released a Public Perception Survey. Several of the questions that were asked related to fertilizers and lawn maintenance practices. Here are some interesting results.

- When asked how often Long Islanders living in the LIS watershed fertilized their lawn, 49% said several times a year.
- 74% of Long Islanders fertilize their lawns as often today as they did 5 years ago.
- 46% of residents did not know whether they used a slow-release fertilizer or a fast-release fertilizer.
- When asked if Long Islanders thought a change in their everyday behavior would improve the quality of Long Island Sound—55% of Long Islanders said no.

The survey highlights the importance of public education programs and policies that promote altering public behavior, such as the Suffolk County Resolution. **CCE would encourage the NY Legislature to enact state-wide legislation that restricts the use of fertilizer in the fall and**

[7]Westhampton, Hampton Bays Patch, "Red Tide Returned to East End". September 2, 2011. http://westhampton-hamptonbays.patch.com/articles/red-tide-returns-to-east-end-survives-irene

winter months. This simple, common sense legislation goes far in protecting our water resources against harmful run-off. Literally, our public behavior makes the choice between brown tide and a green lawn. This choice is not well understood by the public. State legislation could help create this needed change in public understanding and public behavior.

b. Fund critical studies and remediation efforts in Northport Harbor

Excessive nitrogen is entering Northport Harbor from a variety of sources, including storm water runoff, sewage treatment plant, and septic systems from residences around the Harbor. The harbor is among the worst hit by toxic red tide on the East Coast due to the extremely high levels of nitrogen in the waters. As a result, shell fishing areas and bathing beaches have been closed by the DEC during critical seasons. The Northport Harbor Water Quality Protection Committee has identified several priorities to remediate the red tide issues and is in need of State funding to complete these tasks. These include;

- Completing a nutrient budget to determine where and in what quantities the nitrogen is coming from
- Continuing red tide monitoring by the DEC and SUNY Stony Brook.
- Updating critical sewage and storm water infrastructure in the Village of Northport. Recently, Northport was struck with an Administrative Order from the US EPA for storm water violations found to be in violation of the Clean Water Act.

c. ***Continue to Advance a Total Maximum Daily Load in the Western Bays***

The Western Bays are home to the largest concentration of salt marshes in the South Shore Estuary Reserve. This system of bays and marshes provide critical habitat for birds and marine species, and offer abundant recreational opportunities for residents and tourists. The bays were once productive fishing and shell fishing grounds.

For years, concern has been building about high nutrient levels in the waters of the Western Bays and the relationship of excess nutrients to a blight of Ulva, or seaweed. Recreational finfish and shellfish have declined. Elevated levels of coliform bacteria are responsible for the permanent closure of more than 15,000 acres of shellfish beds in the Western Bays, along with periodic closures of bathing beaches.

Restoration of the Western Bays must be a top priority. The first step to restoration is the development of TMDL (total maximum daily load) assessment for pathogens and nutrients. A TMDL is an assessment, determining "how much" discharge a waterway can tolerate without deteriorating. It investigates why the waterway became impaired and proposes solutions for returning it to a healthy state. Critically needed studies are now underway, which are needed for the development of a TMDL***. NYS needs to ensure that funding is available to continue the development of a TMDL.***

7. Pharmaceuticals in Water

Pharmaceutical contamination in our groundwater, rivers, estuaries, and bays is an emerging issue throughout New York State and our Nation. For many years it was the recommendation of

the US EPA and the NYS Department of Environmental Conservation to flush unwanted and unused pharmaceutical drugs. Yet, our sewage treatment plants, septic systems, and drinking water infrastructure were never designed to remove these contaminates. Pharmaceuticals enter our wastewater from a variety of sources including the flushing of unused medications. A nationwide study done by the United States Geological Survey (USGS) found low levels of drugs such as antibiotics, hormones, contraceptives and steroids in 80% of the rivers and streams tested. Although more research is needed, research available confirms the presence of pharmaceuticals in NY's water sources.

A study in Jamaica Bay Study, analyzed components of treated sewage effluent and its effect on marine life. The study found a direct correlation between the presence of pharmaceuticals in Jamaica Bay and the feminization of fish. The ratio of female to male winter flounder in the bay was 10:1. The team concluded that the fish populations may be significantly impacted by the presence of hormone-mimicking compounds in the water, which include pharmaceuticals, plastics, and personal care products.[8]

A second study conducted by the United States Geological Survey (USGS) and the U.S. Department of Interior (DOI) in coordination with Suffolk County found pharmaceutically active compounds (PhACs) present in Suffolk County groundwater. The study collected 70 samples from 61 wells in the Upper Glacial and Magothy aquifers and tested for 24 different pharmaceuticals. The most commonly detected compounds present were an antiepileptic drug called arbamazepine (detected in 18/70 samples) and an antibiotic by the name of sulfamethoxazole (detected in 9/70 samples.) The study concluded that low but measurable concentrations of PhACs were present in the wells, confirming that groundwater is susceptible to PhACs and other compounds present in treated waste-water.[9]

An Associated Press investigation found that drugs have been found in the drinking water supplies of 41 million Americans. The New York State Health Department and the USGS tested the NYC watershed and found trace amounts of heart medicine, infection fighters, estrogen, mood stabilizers, and tranquilizers present[10].

Currently, there is no comprehensive data concluding that pharmaceuticals in drinking water have a long-term effect on human health. There is no state or federal regulations on what levels are acceptable in drinking water. In fact, many water companies, small and large, do not even test their water for the presence of pharmaceuticals.

Despite the need for further research, it is clear that pharmaceuticals are unnecessarily entering into our water supplies, our lakes, rivers, estuaries, and bays. Part of the solution is to STOP flushing drugs and establish drug-take programs. This can be done through legislation, education, and enforcement.

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[8] Branca, Barbara A., Dooley, Patrick. (2006) Estrogenic Compounds in Urban Waterways: An Interview with Anne McElroy

[9] Benotti, Mark J., Fisher, Shawn C., Terracciano, Stephen A. (2006) Occurrence of Pharmaceuticals in Shallow Ground Water of Suffolk County, New York, 2002-2005. U.S. Department of the Interior. U.S. Geological Survey. Suffolk County Water Authority.

[10] Donn, Jeff, Mendoza, Martha, Pritchard, Justin. "Drugs found in drinking water" USA Today, March 3, 2008.

CCE commends the NYS legislature with taking initial steps to address this growing problem. Legislation was passed and signed into law in 2008 that mandated pharmacies to post notices informing the public on proper storage and disposal of drugs. ***However, this legislation is not enforced and has not accomplished its intended goal. We now need to go beyond such simplified notification and establish state wide aggressive education process and establish a large-scale permanent drug take-back program.***

CCE Recommendations

a. Large Scale Establishment of Residential Drug Take-Back Programs.

Residents need an alternative to flushing medications. Drug-take back programs are part of the solution. On Long Island, the first pharmaceutical take-back program was initiated by the Town of North Hempstead in 2008. Since then, there have been take back days by several other towns as well as permanent collection stations at police precincts throughout the county. The municipalities have held events where residents can bring medications, including controlled substances, to a designated facility where they are properly disposed. These four events were hugely successful, collecting thousands of pounds of pharmaceuticals, some dating back to 1966, and others recalled, such as Vioxx. It is important that municipalities continue to educate residents on the importance of not flushing drugs so they do not wind up leaching into groundwater from septic systems or entering estuaries from sewage treatment plants.

Although the take back events have been successful, individual events take considerable time and coordination to plan and implement. Currently for each event, NYS DEC permits must be obtained, law enforcement must be present during the entire event, and arrangements must be made with a waste-to energy facility to ensure the medications returned are properly disposed. At the conclusion of the event, law enforcement is responsible for bringing medications to the waste to energy facility where*. A state-wide program would streamline the process, while ensuring all New Yorkers a convenient place to properly dispose of medications.*

An alternative to annual or semi-annual take-back days is establishing permanent take-back centers. Because law enforcement must be present, some Counties have chosen to house these take-back receptacles at police departments. Right here in Suffolk County, the "Operation Medicine Cabinet" program has collected over a ton of pharmaceuticals since its inception in 2010. Residents are able to drop-off old, un-used drugs into these receptacles 24/7. They are periodically collected by a hazardous waste disposal company and brought to a waste-to-energy facility where they are burned at high temperatures.

b. NYS should ensure that Hospitals, Senior Homes, and Nursing Homes properly dispose of medications

It was once the recommendation of the NYS DEC to flush un-used and unwanted drugs. The guidance has been changed, yet there are still establishments such as nursing homes, long term care facilities, and hospice care facilities that continue to flush medications. After recent news reports on pharmaceutical collection days, CCE received several anonymous calls from nurses confirming that the facility they worked in still flushed unwanted medicines. They were unaware that the guidance had changed. It is critical that this practice is stopped and facilities are notified of the new guidance procedures, and alternative options are recommended.

Suffolk County has taken action on this issue – passing the Pharmaceutical Safe Disposal Act, which requires hospitals and nursing homes to file a pharmaceutical disposal plan with the County Health Department annually. The plans and actions will be communicated to management and staff and records will be helpful in documenting sources, quantities and methods of disposal across the County. ***NYS should move forward with similar legislation that requires nursing homes, hospitals, and long term care facilities to submit annual plans on how they are disposing of their unwanted and unused pharmaceuticals. NYS should also ban these establishments from flushing drugs.***

8. Groundwater Toxic Contamination Sources

Long Island has a legacy of contamination from everything from military bases to dry cleaning companies. There are currently over 6,800 brownfield sites and over two dozen superfund sites identified by the EPA and DEC. These contaminated sites, which have both negative environmental and economic impacts leave communities blighted and when left contaminated, pose a threat to groundwater and surface waters.

There are 23 Manufactured Gas Plants (MGP) sites that must be remediated on Long Island. The production of this gas from coal at various sites around Long Island has created a legacy of pollution that continues to threaten our drinking water. Some of the sites contain coal tar and BTEX compounds which continue to migrate slowly in the subsurface and in Long Island's aquifer, creating highly toxic plumes of pollution. The Bayshore and Hempstead MGP sites each have several plumes of pollution that migrate under large communities, producing the very real threat of toxic vapor, or VOC intrusions into homes, schools, churches, and local businesses. The contaminants of these plumes not only affect groundwater, but eventually enter nearby surface water bodies.

<u>CCE Recommendations</u>

a. *Establish a process by which the regional DEC office can be involved with remediation. Currently, for MGP sites only the Albany office has jurisdiction. This means when budgets are cut, travel to Long Island is diminished. The Albany DEC seems to take an extensive amount of time with these remediation plans and efforts.*
b. *Establish an indoor air sampling program for those who live and work above groundwater plumes.*
c. *Encourage the cleanup, redevelopment, and reuse of contaminated sites.*
a. *Continue reclamation of Brownfields for re-development through site prioritization and smart planning.*

9. Sewage

The issue of sewage, including treatment, technology, discharge and funding, has become one of the biggest dilemmas on Long Island. There are over a hundred Sewage Treatment Plants (STP's) across Long Island that handle residents and businesses' waste that empty into surface and

groundwater across Long Island. There are thousands more septic systems that discharge directly into groundwater. Many STP's are facing new challenges to meet demand for growing population densities and increased frequency and intensity of storms due to climate change and are in need of serious upgrades or repairs. Increased effluent into our water bodies has resulted in declining water quality, excessive seaweed growth, increased shellfish closures, closed bathing beaches, and a diminished quality of life. There are several reasons why we need to stop viewing sewage as an 'out of sight out of mind' issue and get serious about fixing our sewage woes.

Because sewage treatment plants are managed at several different levels, there is currently no agency or document that holistically analyzes the cumulative effects of all of the STP's across the Island. In October, CCE will be releasing the first of its kind Sewage Report Card that evaluates 10 municipally owned treatment plants on Long Island. The report identifies discharge locations, implementation of energy efficiency and the use of green infrastructure, a comprehensive view of the violations for each facility over the last 5 years, what type of treatment is utilized, and methods of public education and outreach programs that may be in place. The scores vary, but what remains consistent, is our critical need to invest in our sewage infrastructure and the lack of foresight about what our management of sewage is doing to our ground and surface waters.

Critical problems resulting from STP's are the bacteria and the nutrients they release into our environment. To prevent these human health threats, municipalities have taken precautions especially during summer months with beach closings and in many cases preemptive closing, when degraded water quality is an issue.

According to the NRDC's annual ***Testing the Waters Report***, which lists beach closures across the country, there were 334 total beach closure days on Long Island in 2010 due to high bacteria content. One beach in Centerport was closed for 365 consecutive days due to high bacteria levels in Northport Harbor near the sewage treatment plant. The illnesses associated with polluted beach water include conditions such as skin rashes, pinkeye, respiratory infections, meningitis and hepatitis. [11]

CCE Recommendations:

a. ***NYS should pass legislation notifying the public when a sewage incident occurs at an STP.***

   When an STP overflows or spills untreated sewage into a waterway, the public should be immediately notified. Too often we have seen on Long Island residents swimming, fishing, crabbing, and waterskiing in an area that had an overflow. There is currently no law requiring municipalities or the DEC to notify members of the public when such occurrence occurs.

   Spills or discharges of: sewage; waste; substandard effluent or wastewater; contaminants and pollutants; sludge; suspended and settable solids; chemicals such as ammonia and chlorine; excessive nutrients, pathogens, bacteria or toxins such as mercury; non-indigenous compounds; and any related violations or suspected violations of presiding environmental law all raise public health, safety, and

[11] Dorfman, 2010

environmental concerns. Prompt notification of such events should impel the DEC to immediately initiate proactive and preventative measures to alert the public of all such concerns that may affect waterway uses and activities including but not limited to risks to commercial and recreational fishing, shellfish harvesting, as well as recreational uses such as swimming, diving and water skiing.

b. Require all Sewage Treatment facilities to reduce nitrogen from their effluent.

The entire LI Sound is under a TMDL for nutrients. This requires sewage treatment plants to upgrade to reduce nitrogen from effluent. Due to this TMDL, many plants on the north shore have upgraded their plants. However, STPs on the south shore of Long Island are not currently under any legal obligation to reduce nitrogen from their effluent, so many continue to discharge high nitrates into the south shore bays and ocean. The entire South Shore Estuary Reserve has been designated an impaired water body for excessive nutrients. The western bays, which currently have 4 sewage treatment plants discharging into it, have been severely degraded. ***It is critical that NYS ensure funding continues to develop TMDL's in our impaired waterways.***

c. ***Sewage Treatment Plants should be required to test effluent for pharmaceuticals.*** As a first step to filtering out pharmaceuticals, plants should begin testing for pharmaceuticals in their influent and effluent. Because this issue is new and emerging, it is important to secure the necessary information to find a solution.

d. ***Increase DEC staffing in the department of wastewater management.*** DEC staffing levels are at an all-time low. It is necessary that sewage treatment operations receive careful oversight, regulation, and enforcement to protect groundwater and surface waters.

Conclusions

Long Island's groundwater is a public resource that needs to be managed and protected with rigor in order to ensure a sustainable future for Long Island. Jeopardizing drinking water will result in not only putting public health at risk but risks Long Island's future. CCE specializes in public education and outreach on significant public health issues including protection of the quality and quantity of our drinking water supply.

We communicate with thousands of members of the Long Island public each year on environmental protection issues. There is overwhelming public support and public expectation for strong and aggressive protection of our aquifer system. An aquifer protection plan should not only include methods of prevention but rather it should adopt prevention of contamination as the cornerstone and foundation of the protection plan.

It is CCE's experience that the public does not ascribe to the common premise that small quantities of contaminates are "acceptable". The public doesn't expect to be drinking a cocktail of chemicals where the data about the combination of those chemicals on their health has yet to be studied and determined. Only manufacturers of these products and overzealous developers

promote the arguments of “acceptable levels”. In my 26 years of experience I have NEVER met a member of the public who supported increasing chemical exposure to their families and communities. In addition, as you are aware, there is a great financial burden associated with monitoring, testing and remediation efforts of contaminates in water supplies. Prevention not only protects public health but also saves money. Therefore, as our state’s top leaders, CCE is urging you to provide the public with the protection plan we expect, we deserve and we need.