TESTIMONY OF

LAWRENCE M. LEVINE
NATURAL RESOURCES DEFENSE COUNCIL

BEFORE THE
NEW YORK STATE SENATE STANDING COMMITTEE ON ENVIRONMENTAL CONSERVATION

PUBLIC HEARING ON
NOTIFICATION PROCEDURES RELATED TO SEWAGE AND OTHER POLLUTANTS RELEASED INTO OUR WATER

NEW YORK, NY
OCTOBER 14, 2011

Lawrence M. Levine
Senior Attorney, Water Program
Natural Resources Defense Council
40 W. 20th Street
New York, NY 10011
(212) 727-4548

Testimony of Lawrence M. Levine
Natural Resources Defense Council
Before the New York State Senate Standing Committee on Environmental Conservation
October 14, 2011

Thank you for the opportunity to testify today on behalf of the Natural Resources Defense Council (NRDC) and our over 100,000 members and online activists in New York State. NRDC appreciates this Committee's interest in the problems of sewage overflows and polluted stormwater runoff, which regularly foul our beaches, rivers, and lakes with pathogens and a range of other pollutants harmful to both people and our environment. We look forward to working with you and with state agencies, such as the Department of Environmental Conservation (DEC), to continue strengthening state policies and programs to protect our beaches and waterways -- especially through the use of "green infrastructure" approaches that mimic the way nature handles runoff, treating rainwater as a resource rather than a waste. As discussed below, these approaches, which rely largely on soils and vegetation to absorb and treat runoff, literally green the urban landscape -- protecting our waterways while making our communities healthier and more beautiful places to live.

The Problem

The term "stormwater" refers to the runoff from rain storms (and melting snow) that washes huge amounts of pollution into our coastal and inland waters from roads, highways, parking lots, and other paved surfaces; residential yards and other landscaped areas; active construction sites; and agricultural lands. The pollutants in this runoff include pathogens that cause beach closures and shellfishing area closures; excessive nutrients, including nitrogen and phosphorus, that cause algal blooms and critically deplete dissolved oxygen levels in receiving waters; silt and sediment

that causes turbidity levels harmful to aquatic species; litter that despoils the natural beauty of our shorelines and creates hazards for birds and wildlife; and even excess heat that can upset the ecological balance in cold water streams.

In areas with "combined" sewer systems, such as New York City, Albany, and Syracuse, in which a single set of sewer pipes handles both sanitary flow from buildings and storm runoff from roads and other impervious surfaces, stormwater runoff also routinely causes "combined sewer overflows" (CSOs) – *i.e.*, the discharge of untreated sewage into our waters mixed with stormwater runoff. In New York City alone, nearly 30 billion gallons of this bacteria-laden mix overflow annually into the waters around the city from over 400 overflow points,[1] with overflows in some areas occurring up to 75 times in a typical year.[2] The magnitude and effects of these CSOs -- repeated year after year -- dwarf the roughly 200 million gallons that spilled from the North River treatment plant in a one-time event last summer, following a fire that temporarily disabled the plant.

Additionally, in many places, sanitary sewer systems -- which were built to handle only human and industrial waste from buildings and convey it to sewage treatment plants -- are aging and deteriorating rapidly, leading to sewage spills into adjacent waterways. As population and sewer loads increase and rehabilitation and maintenance schedules lag, pipes can deteriorate and break. Deteriorating pipes, along with illegal stormwater hookups to sewer lines, also allow runoff to enter sanitary sewer systems and overwhelm sewer lines and treatment plants. As a result,

[1] *See* NYC DEP, *NYC Green Infrastructure* Plan (2010) (http://www.nyc.gov/html/dep/html/stormwater/nyc_green_infrastructure_plan.shtml).

[2] New York City Department of Environmental Protection, *Gowanus Canal Waterbody/Watershed Facility Plan Report* (Aug. 29, 2008).

nationwide, it is estimated that raw sewage is spilled directly onto streets and into waterways 23,000 to 75,000 times annually, discharging a total of 3 billion to 10 billion gallons. Stormwater and snowmelt leaking into sewer lines cause about one quarter of these sanitary sewer overflow (SSO) events, but account for nearly three-quarters of the total volume discharged.[3] Unfortunately, there are many examples of this in the Hudson River north of New York City, which Riverkeeper and others are highlighting in their testimony today.

In total, throughout New York State, around 200 waterbodies (or portions of waterbodies) are designated as failing to meet state water quality standards for the protection of human health and marine and aquatic ecosystems, specifically because of sewage overflows and/or urban stormwater runoff.[4] The U.S. EPA identifies urban stormwater runoff as the most common source of water pollution in New York.[5]

The effects of this pollution are impossible to ignore. They include:

- Public health threats, including beach closures and advisories: Polluted runoff and untreated sewage carry pathogens that can cause a range of diseases to recreational users of the state's waterways, including gastroenteritis, skin rashes, pinkeye, ear, nose and throat problems, and respiratory ailments. Consequences are worse for children, the elderly, pregnant women, and anyone with a weakened immune system. NRDC's annual

[3] EPA, REPORT TO CONGRESS: IMPACTS AND CONTROL OF CSOS AND SSOS 4-27 (2004) *available at* http://cfpub.epa.gov/npdes/cso/cpolicy_report2004.cfm

[4] *See generally*, DEC, 2006 Final New York State 303(d) List (June 1, 2006); DEC, Draft 2008 Section 303(d) List (Jan. 15, 2008).

[5] *See* L. Levine, "Urban runoff named primary NY water pollution source, 1 day after NRDC sues to clean it up" (June 29, 2010) (http://switchboard.nrdc.org/blogs/llevine/urban_runoff_named_primary_ny.html).

Testing the Waters report on beach water quality nationwide, which is based on data reported by the states, consistently finds polluted runoff and sewage to be the dominant source of water pollution at beaches in New York and around the country. New York State beaches, including those along the Great Lakes, had nearly 1,000 closing and advisory days in 2010, which was a relatively dry year. In recent past years, with more rainfall, there were up to 50% more closing and advisory days.[6] These polluted waters not only harm recreation users -- they also harm our economy when people stay away from polluted areas. In 2007, for example, municipal and state beach closures, initiated largely as a result of stormwater runoff, cost Long Island's tourism industry more than $60 million.[7]

- Shellfishing closures: Much, if not most, of the Long Island coastline is subject to seasonal or year-round bans on shellfish harvesting due to elevated pathogen levels caused by stormwater runoff.[8] In many parts of Long Island, DEC has identified the need for up to 95% reductions in loadings of pathogens from urban stormwater, in order to achieve water quality standards for pathogens around Long Island.[9]

- Algal blooms and low dissolved oxygen levels in important fish and shellfish habitat: Combined sewer overflows and stormwater runoff, along with treated sewage effluent, contribute to harmful algae blooms that strip oxygen from the water and kill underwater grasses that serve as nurseries for fish. For example, in 2003, a hypoxic area in Long

[6] NRDC, *Testing the Waters: A Guide to Water Quality at Vacation Beaches* (July 2011) (available online at http://www.nrdc.org/water/oceans/ttw/titinx.asp).

[7] Robertson, Timothy. "LI loses money due to beach closures from runoff." *Newsday* (Aug. 9, 2007).

[8] *See generally* 6 NYCRR Part 41; and DEC website at http://www.dec.ny.gov/outdoor/345.html.

[9] *See* DEC, "Shellfish Pathogen Total Maximum Daily Loads (TMDLs) for 27 303(d)-listed Waters," http://www.dec.ny.gov/docs/water_pdf/tmdlpathshel07.pdf.

Island Sound covered 345 square miles – an area larger than the entire land mass of New York City.[10] DEC has identified the need for reductions of 10-15% in nutrient loadings from urban stormwater to improve dissolved oxygen levels in Long Island Sound and nitrogen levels in Peconic Bay.[11]

Moreover, as a recent NRDC report highlighted, scientists project that climate change will bring more precipitation and more intense rain storms to the New York region, increasing the area's vulnerability to stormwater and sewage pollution, especially if current development trends continue.[12]

Solutions

The primary cause of sewage overflows and stormwater pollution from developed areas is the fact that roads, parking lots, buildings, and other non-porous surfaces have replaced the natural landscape that once served to capture and filter storm runoff, regulating the quality and quantity of water flowing through watersheds into our rivers and bays. The antidote is to protect and create "Green Infrastructure" that preserves or replicates those functions of a natural landscape.

On the regional scale, Green Infrastructure includes a "Smart Growth" approach to land use planning that prioritizes redevelopment of already-urbanized areas over development of open

[10] Long Island Sound Study. *Sound Health 2006* at 4.

[11] *See* DEC, "Total Maximum Daily Load (TMDL) Analysis to Achieve Water Quality Standards for Dissolved Oxygen in Long Island Sound"; and DEC, "Total Maximum Daily Load (TMDL) for Nitrogen in the Peconic Estuary Study Area." (These and other TMDLs that address pollution sources including stormwater are available at http://www.dec.ny.gov/chemical/23835.htm l .)

[12] *See* NRDC, *Thirsty for Answers* (July 2011) (http://www.nrdc.org/water/thirstyforanswers.asp). *See also* L. Levine, "New Report Highlights Vulnerability of NYC Water Infrastructure to Climate Change -- and the City's Efforts to Prepare" (July 26, 2011) (http://switchboard.nrdc.org/blogs/llevine/today_nrdc_released_link_to.html).

space and directs development away from the most critical areas in our watersheds. (Watershed protection in the Catskills, of course, is what gives New York City its famously clean, unfiltered drinking water.)

At the city scale, Green Infrastructure means the implementation of systems and practices that use or mimic natural processes to infiltrate (*i.e.*, through soils into groundwater), evapotranspirate (*i.e.*, return to the atmosphere either through evaporation or by plants), or reuse stormwater on the site where it is generated – rather than routing it to storm sewers where it is whisked away, along with a heavy dose of pollutants (and, in the case of combined sewer systems, untreated human sewage), into our rivers, lakes, and coastal waters. Green infrastructure approaches currently in use include green roofs, trees and tree boxes, rain gardens, vegetated swales, pocket wetlands, infiltration planters, porous and permeable pavements, vegetated median strips, reforestation/revegetation, protection and enhancement of riparian buffers and floodplains, and rain barrels and cisterns that capture and re-use rainfall for outdoor landscape irrigation or for indoor use.

There is now a growing consensus that green infrastructure approaches are "a cost effective and an environmentally preferable approach to reduce stormwater and other excess flows entering combined or separate sewer systems in combination with, or in lieu of, centralized hard infrastructure solutions." Moreover, it is widely recognized that green infrastructure – especially those methods focusing on the use of vegetation – "has a number of other environmental and economic benefits in addition to reducing the volume of sewer overflows and stormwater discharges," including enhanced water supplies, cleaner air, reduced urban temperatures,

increased energy efficiency through lower building cooling costs, mitigation of greenhouse gas emissions, community aesthetic improvements, cost savings over "traditional" hard-infrastructure approaches to stormwater management.[13] The U.S. EPA and other government and non-profit entities continue to develop and make available a wide range of resources that state and local governments can draw on to develop stormwater management programs and policies focused on green infrastructure.[14] In Philadelphia, a two-hour drive south of New York, that city is demonstrating how major investments in green infrastructure can achieve sewage overflow reduction goals while providing a wide range of urban sustainability benefits. To comply with Clean Water Act requirements to reduce sewage overflows, Philadelphia is formally committed to deploying, over the next 25 years, the most comprehensive network of green infrastructure found in any U.S. city.[15]

In the last several years, local and state policymakers in New York have made important strides to embrace a green infrastructure approach. For example:

- In 2008, with strong support from NRDC and the Storm Water Infrastructure Matters (SWIM) Coalition, the State Legislature authorized a New York City property tax credit for the installation of green roofs. Green roofs not only keep storm water out of city sewers, but also significantly reduce building cooling costs, as well as help cleanse and cool outdoor air.

[13] *See generally* http://cfpub.epa.gov/npdes/greeninfrastructure/gisupport.cfm ("Green Infrastructure Statement of Support").

[14] *See generally* cfpub.epa.gov/npdes/greeninfrastructure.cfm.

[15] *See* L. Levine, Philadelphia Gains Approval of Landmark Green Infrastructure Plan, a Model for Smart Water Practices Nationwide (http://switchboard.nrdc.org/blogs/llevine/philadelphia_gains_state_appro.html).

- In 2009, the state Department of Environmental Conservation (DEC), Onondaga County, and a local environmental group reached a federal court settlement that commits the county to use green infrastructure as a primary approach for addressing CSOs, rather than relying entirely on expensive "end-of-pipe" engineered solutions.[16] Onondaga County thus became the first community in the U.S. to have a legal requirement to meet binding targets for CSO reduction by using green infrastructure.
- In 2009, the Environmental Facilities Corporation (EFC) instituted the Green Innovation Grant Program (GIGP), which has become one of the nation's most successful programs to direct tens of millions of dollars in federal water infrastructure funding to green infrastructure and other innovative, sustainable technologies. Notably, EFC has received applications for hundreds of millions of dollars' worth of green infrastructure projects, beyond what it currently has the resources to fund. EFC is now integrating the GIGP program into the "Conolidated Funding Application" process associated with Governor Cuomo's regional economic development initiatives.[17]
- DEC has directed additional funds to green infrastructure through the Water Quality Improvement Project (WQIP) Statewide Grant Program, which receives funding from the state Environmental Protection Fund (EPF).
- In 2010, urged on by NRDC and other environmental groups, DEC issued a new Stormwater Design Manual that embraces a green infrastructure approach, for use in conjunction with DEC's SPDES general permits for municipal storm sewer systems, new development

[16] http://www.syracuse.com/news/index.ssf/2009/11/federal_judge_approves_letting.html

[17] http://www.nysefc.org/GreenGrants.aspx

projects, and redevelopment projects.[18] (While the new manual is a huge step in the right direction, NRDC is concerned that DEC's stormwater general permits fail to ensure the manual's green infrastructure standards will be followed consistently. NRDC and several other organizations have litigation pending in state court on that matter.[19])

- Within the last year, New York City released, and has begun to implement elements of, a "Green Infrastructure Plan" aimed at reducing CSOs.[20] Through this and related efforts dating back to Mayor Bloomberg's original PlaNYC in 2007, the city is moving in a direction that NRDC and the SWIM Coalition have long advocated. While many critical details of a long-term, citywide program remain to be worked out,[21] the city has stated its commitment to spend nearly $200 million over the next four years as a "down-payment" on these efforts.[22] Over the last year, the city has been negotiating with DEC to lock-in green infrastructure commitments in a consent order under the Clean Water Act. We expect the city and state to announce a proposed consent order soon. NRDC looks forward to reviewing it closely and engaging with both DEC and the city Department of Environmental Protection (DEP) in a robust dialogue and public comment process, aimed at ensuring the order successfully charts a path to both clean waterways and a greener city. Ultimately, New York

[18] http://www.dec.ny.gov/chemical/29072.html

[19] *See* L. Levine, "Urban runoff named primary NY water pollution source, 1 day after NRDC sues to clean it up" (June 29, 2010) (http://switchboard.nrdc.org/blogs/llevine/urban_runoff_named_primary_ny.html)

[20] *See* NYC DEP, *NYC Green Infrastructure* Plan (2010) (http://www.nyc.gov/html/dep/html/stormwater/nyc_green_infrastructure_plan.shtml).

[21] *See, e.g.*, Letter of 11/12/2010 from SWIM Coalition to NYSDEC Asst. Cmr. J. Tierney, Re: "NYC Green Infrastructure Plan" (available at: http://swimmablenyc.info/wp-content/uploads/2010/11/SWIMSC_GIplan_DEC.pdf).

[22] *See* NYC Mayor's Office of Long-Term Planning and Sustainability, PlaNYC 2011, p. 67 (http://www.nyc.gov/html/planyc2030/html/theplan/the-plan.shtml).

City has the potential to surpass even cities like Philadelphia as a national leader in green infrastructure, but much work remains to be done.

- Communities in the Hudson Valley are engaged in a regional green infrastructure planning effort, through the Hudson Valley Regional Council, with the support of a federal stimulus grant administered by EFC.[23]

Recommended Next Steps

The State, federal, and local governments all have essential roles to play in solving our stormwater pollution problems, as do the private sector and individual residents. Below are some of the most important, concrete steps that should be taken. The Legislature has a critical role to play, including through appropriations, oversight, and, in some cases, new legislation.

Improving Public Notification of Sewage Overflows

NRDC endorses and joins in the call for improved public notification requirements, which Riverkeeper, the SWIM Coalition, and others are addressing in detail in their testimony. The Legislature should pass mandatory public notification requirements to ensure consistent public health protection in New York City and statewide.

Funding Needs

State government funding:

- **DEC operating budget:** DEC has, for many years, been forced to operate without adequate staffing or resources. Literally hundreds of staff positions have been cut

[23] http://www.dec.ny.gov/lands/70657.html

from peak staffing levels in the 1990s. The stormwater program, like many others at the agency, has suffered as a result. The State Legislature should ensure that adequate funding is provided for DEC to effectively administer its stormwater and sewage overflow programs, including such essential tasks as the development of permit terms and related guidance documents and technical manuals; training of MS4 permittees and of private-sector stormwater professionals, especially on related green infrastructure methods; oversight of, and provision of technical support to, municipalities charged with implementing permit requirements; enforcement of stormwater general permits; and grant administration and oversight to ensure local accountability for the effective use of grant funding. As appropriate, the Committee should exercise oversight over DEC to ensure effective use of available funds to achieve interim goals for program implementation and measurable improvements in water quality. DEC programs should be restored to full funding and staffing levels as soon as possible.

- **Grant programs (including the Environmental Protection Fund) for local government assistance:** DEC provides several million dollars annually to municipalities and regional Soil and Water Conservation Districts for urban stormwater pollution and sewage overflow control projects, under the Water Quality Improvement Project Program, which is funded primarily by the Environmental Protection Fund (EPF). The Department of State (DOS) provides similar grants, also drawing on the EPF and other sources. The Committee should ensure that funding for these and other essential environmental programs remains available at current or

higher levels. In particular, no EPF dedicated funds should be diverted into the state's General Fund to fill other budget gaps.

Legislation to authorize formation of regional stormwater utilities

- **Self-sustaining local funding sources:** State legislation to authorize the formation of "regional stormwater utilities" -- including authority for both revenue collection and administration of cooperative, inter-municipal stormwater programs -- would greatly improve the current funding situation.[24] Local governments need to ensure a steady source of revenues to implement improved stormwater management programs, including specific regulatory obligations under the statewide SPDES general permit for municipal separate storm sewer systems (MS4s). One of the best funding mechanisms used around the nation is a "stormwater utility fee," which charges property owners based on the amount of impervious surface on their land or on some other surrogate for the volume of stormwater runoff released from the site. This both provides a revenue stream – treating stormwater management like other government services, such as drinking water and wastewater treatment – and creates financial incentives for developers and property owners to minimize impervious surfaces, such as by using green infrastructure techniques.

Federal funding:

- **Clean Water State Revolving Fund:** State elected officials should urge Congress to substantially increase the Clean Water State Revolving Fund (SRF), which is the

[24] *See, e.g.*, "Feasibility of a Regional Stormwater Utility Distruct in Erie and Niagara Counties: (April 2010), prepared for the Western New York Stormwater Coalition (http://www2.erie.gov/environment/sites/www2.erie.gov.environment/files/uploads/Stormwater%20Utility%20District%20Report.pdf).

principal federal funding program available to communities to clean up sewage and stormwater pollution. In the last decade or more, this program has been vastly under-funded and does not come close to meeting the needs of communities in New York.[25]

Smart Growth, Sustainable Communities, and Regional Economic Development

The Governor's "Cleaner, Greener New York" initiatives, implemented through the Regional Economic Development Council framework, should reward communities that prioritize green infrastructure investments.

Strengthening the Statewide Stormwater Regulatory Program

In addition to funding of public investments in green infrastructure, regulatory requirements -- for new development projects, redevelopment projects, and in some cases retrofitting of existing development -- are critical for making progress on reducing polluted runoff and sewage overflows.

- Provide adequate funding for DEC's core regulatory and water quality programs.
- Support a strong national regulation for stormwater management. State elected officials should voice strong support to the Obama Administration for EPA to develop a new, improved stormwater rule that drives the use of green infrastructure. EPA is currently working on a draft rule to be released later this year, which has the potential to hugely advance the use of green infrastructure in New York and nationwide.[26]

[25] *See, e.g.*, DEC, *Wastewater Infrastructure Needs of New York State* (March 2008) (http://www.dec.ny.gov/chemical/42383.html).

[26] *See* USEPA, "Proposed National Rulemaking to Strengthen the Stormwater Program" (http://cfpub.epa.gov/npdes/stormwater/rulemaking.cfm); *see also* D. Beckman, "EPA Steps Up Its Support for Green Infrastructure as Weapon Against Polluted Stormwater"(http://switchboard.nrdc.org/blogs/dbeckman/epa_steps_up_its_support_for_g.html).

- Provide state technical support for local governments to apply green infrastructure principles in land use and related decisions. The Department of State (DOS) should coordinate with DEC to fully integrate stormwater management issues into the training and education DOS provides to local officials, such as local planning boards, through its Division of Local Government.[27]
- Eliminate potential existing barriers to green infrastructure in outdated state codes. DOS should review the New York State Uniform Fire Prevention and Building Code to identify any revisions necessary to (i) remove barriers to the implementation of green infrastructure approaches (such as unnecessarily large minimum road widths, which result in excessive impervious coverage in new developments); and (ii) incentivize or otherwise promote green infrastructure approaches.

* * * * *

Thank you for your consideration of this testimony and your attention to this issue of great statewide importance. NRDC would welcome the opportunity to discuss these issues further with the members of the Committee.

[27] *See generally* http://www.dos.state.ny.us/lgss/training.htm.