

SPRING 2015

Part I: Green Infrastructure Recommendations for NYC









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ABOUT NYLCVEF

The New York League of Conservation Voters Education Fund educates, engages, and empowers New Yorkers to be effective advocates on behalf of the environment -- from clean energy and funding for parks, to solid waste and green buildings.

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Foreward

The New York League of Conservation Voters Education Fund (NYLCVEF) is a 501(c)(3) nonprofit organization dedicated to educating New Yorkers on environmental issues and engaging them in civic life.

Last year, NYLCVEF launched a three-part policy forum series called Dig Deep for a Greener New York. The series brought together elected officials, environmental leaders and the general public to challenge preconceived notions and discuss issues of composting, parks funding and green infrastructure.

The New York City Panel on Climate Change's (NPCC) recent report details environmental challenges facing the New York metropolitan region — higher annual temperatures, increasingly frequent heavy downpours, and rising sea levels. These effects will continue to exacerbate our water quality and infrastructure challenges. One major challenge, combined sewer overflows (CSOs), occurs when a mixture of untreated sewage and stormwater runoff streams into our waterways.

The city has taken positive steps toward addressing CSOs and other infrastructure issues. As a start, the New York City Department of Environmental Protection (DEP) committed \$192 million for green infrastructure programs by 2015. And over the next 20 years, DEP plans for \$2.4 billion in public and private funding for green infrastructure installations and \$2.9 billion in cost-effective green infrastructure upgrades.

The city's pursuit of green infrastructure projects has improved the quality of the city's waterways and brought multiple benefits to local communities, including improved air quality, increased shade, and cooler summer temperatures. The Department of Environmental Protection (DEP) itself benefits from increased organizational capacity at the Office of Green Infrastructure; development of sophisticated and data rich project tracking and asset-management tools; expansion of both public-private and intergovernmental partnerships; and the establishment of a green infrastructure workforce development program that creates greens jobs and citywide economic opportunities.

Building on those successes, NYLCVEF commissioned a background paper in June 2014 to examine the city's Green Infrastructure Plan and explore opportunities for its expansion. In October of that year, NYLCVEF hosted a policy forum to discuss ways the city can maximize the power of green infrastructure to address CSOs and resiliency.

We would like to acknowledge the following organizations whose invaluable feedback and contributions over the last six months helped NYLCVEF shape our final recommendations: The Natural Resources Defense Council, The Nature Conservancy, Riverkeeper, the S.W.I.M. Coalition, The Trust for Public Land and New York City Department of Environmental Protection.

A copy of our recommendations was sent to New York City elected officials, agency heads and other administrators. We are grateful for their comments and look forward to working with all interested parties to make New York City a greener, healthier and more resilient city for all.

Signed,

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Marcia Bystryn, President New York League of Conservation Voters Education Fund

Introduction

Over 60 percent of New York City is served by combined sewer systems—a single pipe collecting both sanitary waste and stormwater runoff that feeds into the city's wastewater treatment plants. When it rains significantly, the plants have to divert excess water directly to the waterbody through an outflow pipe, impairing water quality and violating federal Clean Water Act requirements.

460 Combined Sewer Overflow (CSO) outfall pipes discharge an estimated 27 billion gallons of raw sewage and untreated stormwater annually into the New York harbor and surrounding waterways. Stormwater runoff is also problematic in the non-combined sewer portion of the city, also known as Municipal Separate Stormwater Systems (MS4), because the polluted runoff is discharged directly into local water bodies.

Traditional approaches to stormwater runoff have relied on gray infrastructure — wastewater treatment facilities and holding tanks that are both large and expensive. Since 2010, the city has pursued and implemented a less expensive Green Infrastructure Plan to capture and divert stormwater runoff before it enters the sewer system. The Plan's reduction of CSOs not only improves water quality in New York Harbor, but also has additional environmental benefits such as flood mitigation, coastline resilience, urban heat island mitigation, improved habitat and ecosystem services, improved air quality, reduced energy demand in buildings, and community revitalization. In 2013, the City's Department of Environmental Protection (DEP) launched a comprehensive green infrastructure benefit and cost evaluation, including an assessment of its co-benefits.

Over the next 20 years, DEP is planning to invest \$2.4 billion in public and private funding for targeted green infrastructure installations, and \$2.9 billion in cost-effective gray infrastructure upgrades to reduce CSOs. The investments have made an impact: the city now captures 73 percent of CSO runoff, compared to just 18 percent in 1980.

Space for infrastructure installations is limited in New York City. However, given the frequency of extreme weather events in New York City, there is significant potential for green infrastructure to help achieve multiple goals in our post-Sandy resiliency recovery: water and air quality, flood mitigation, open space enhancement, and climate resiliency, as previously described, in communities inside and outside of combined sewer priority watersheds. Currently, the goal of New York City's green infrastructure plan is to manage runoff from 10% of the impervious surfaces in combined sewer watersheds. Can the city do more?

Based on the outcome of the background paper and the forum, NYL-CVEF believes that the answer is yes, the city can and should do more.

<u>Green Infrastructure Recommendations</u> <u>for New York City</u>

- 1. Expand green infrastructure citywide.
- 2. Maximize the green infrastructure on publicly owned land through greater interagency collaboration and planning.
- 3. Increase green infrastructure on private property.
- 4. Find additional sources of revenue for green infrastructure and its maintenance.
- 5. Find new, innovative green approaches to CSO and resiliency challenges.

Expand Green Infrastructure Citywide

- The city should use the opportunity presented by the pending Municipal Separate Storm Sewer System (MS4) permit from New York State Department of Conservation (DEC) and the required Stormwater Management Program Plan (SWMP) to better connect water quality to green infrastructure deployment, to identify effective land protection strategies, and to implement more contiguous green infrastructure across the whole city.
- Implement green infrastructure projects on waterfront edges as natural barriers and in flood-prone inland areas to mitigate rain-induced flooding to increase citywide climate resiliency and improve public and overall ecosystem health.
- Fully evaluate opportunities for green infrastructure retrofits on both public and private property for each waterbody-specific CSO Long Term Control Plan, considering the availability of a wide array of policy and financing tools, and select the optimal mix of green and gray infrastructure approaches.
- Continue DEP's ongoing efforts to develop and grow a green infrastructure maintenance workforce – a maintenance workforce of municipal, private and non-governmental workers.



Before and after pictures of a blue/green roof. (Source: NYC DEP)

Maximize Green Infrastructure on Publicly Owned Land through Greater Interagency Collaboration and Planning

The next PlaNYC update, due April 2015, provides an opportunity to articulate a citywide vision and goal. The City should lead by example and maximize green infrastructure on all publicly-owned land and properties. In order to identify and leverage funding for these projects, and to facilitate the dissemination of best practices and technical information, there should be a coordinated effort led by the Mayor's Senior Adviser for Recovery, Resiliency and Infrastructure who oversees the Mayor's Office of Sustainability and the Mayor's Office of Recovery and Resiliency to drive collaboration, set interagency stormwater targets and report back on the milestones across city agencies including the Department of Environmental Protection, the Department of Transportation, the Department of Parks and Recreation, the Department of Design and Construction, the Department of City Planning, the Department of Education, the Department of Sanitation, the Department of Citywide Administrative Services, the Department of Housing and Preservation and Development, the New York City Economic Development Corporation, and the New York City Housing Authority.

Increase Green Infrastructure on Private Property

- Carry out a compliance audit to determine adherence to the City's stormwater rule and develop recommendations to strengthen compliance. Strengthen the stormwater rule for new development and significant redevelopment. The City should consider a "retention" standard that requires substantial reduction in the volume of runoff rather than the current "detention" standard that merely limits the rate of runoff.
- Explore private property retrofit incentive programs such as the SMIP and GARP programs in Philadelphia, the Rainwise program in Seattle, and the Riversmart Homes program in Washington, D.C., as well as Pay-for-Performance contracts in Prince George's County, MD, with the Corvias Group.

- Re-examine a stormwater-fee based program to encourage property owners to convert a certain percentage of their property to green infrastructure, with an emphasis on new development and significant redevelopment.
- Explore market-based solutions for regulatory compliance, such as the Stormwater Retention Credit trading program in Washington, D.C., which allows developers to find the least expensive option to meet some of their mandatory retention requirements off-site.
- Expand, promote and streamline DEP's Green Infrastructure Grant program to target and aggregate grants to the most vulnerable communities within DEP's priority watersheds. Invite proposals for "bundles" of projects that meet a target cost-per-acre to improve "bang-forbuck" outcomes.
- Develop a more comprehensive set of criteria for awarding grants to optimize the co-benefits of green infrastructure.
- Reduce upfront costs and technical barriers for property owners to install green infrastructure, while providing technical assistance regarding long term maintenance of the installations.
- Pursue geographically dispersed projects by advertising through community groups, elected officials, local institutions, and other not-forprofit organizations and by connecting applicants to technical resources, pro-bono partners, and other advisors that can enhance their capacity to develop proposals that will meet the required criteria.
- Promote the recently renewed NYC green roof tax abatement.
- Waterway remediation plans should take into consideration all water management and water quality goals and obligations including CER-CLA, CWA, consent orders and climate resiliency.

Find Additional Sources of Revenue for Infrastructure and its Maintenance

Currently, the city funds the Green Infrastructure Program through the sewer and water rates paid for by residents. These funds are supplemented by federal and other grants when available. The City needs to develop additional sources green infrastructure funding beyond the \$700M in the 10-year capital budget. The funding must advance projects that develop multi-tier benefits and function as a product of diverse goals. These options include:

- Pursue Clean Water Act State Revolving Fund monies, including funds for water and wastewater energy projects.
- Pursue ecological restoration funding from the Army Corps of Engineers and other city and state governmental partners working on coastal resiliency. For example, the Mayor's Office of Recovery and Resiliency has a key goal to "expand natural infrastructure systems" over 10 years with \$20 billion and the State's New York Rising Community Reconstruction Program. They have identified 15 targeted communities in the NYC region eligible for state resiliency funding that can benefit from green infrastructure as part of their resiliency strategy.
- Work in partnership with agencies that manage and maintain public infrastructure, including the Department of Transportation, the Port Authority of New York and New Jersey, and the NYC Economic Development Corporation, to identify funding for nature-based or green infrastructure strategies that also offer opportunities to provide land-scape-level mitigation offsets, improve infrastructure safety, and avoid future costs.
- Prioritize effective private partners to pilot green infrastructure in housing programs, industrial areas, parking lots and roofs.
- Explore private-public partnerships for green infrastructure maintenance, including leveraging job training programs across the city to build opportunities for O&M trainees and workers to transition to higher skilled, full-time occupations beyond stewardship and "green jobs" training programs.

Find New, Innovative Approaches to CSO and Resiliency Challenges

Currently, green infrastructure in New York City is largely limited to bioswales, green roofs and similar small-scale stormwater retention methods. As a counterpart to finding additional sources of revenue, the City should aggressively explore new, innovative green approaches, including both larger scale stormwater retention and end-of-pipe treatment technologies, that cost less than conventional methods for reducing CSOs and strengthening shorelines from storm damage.

- Use the city's forthcoming Green Infrastructure Research and Development contract to encourage development and testing of advanced green infrastructure technologies for stormwater storage, retention, and treatment.
- Form partnerships with private firms, non-profits and universities for research, development and pilot testing of new, innovative green approaches.



Example of a bioswale, or planted area that collects rainwater. (Source: NYC DEP)



NYLCVEF's panel discussion on Green Infrastructure in October.

Swimmable Standard: What's at Stake, How Much and Who Pays

The New York State Department of Environmental Conservation (DEC) is holding a series of public hearings on proposed rule changes that would require the suitability of New York Harbor waters for primary contact recreation, such as kayaking and swimming. There are demonstrable benefits of these regulatory changes, but meeting the fishable/swimmable standards for New York City's water bodies will be an expensive undertaking that could inhibit the City's ability to fund other critical water needs related to drinking water protection, state of good repair, updating the distribution network, etc.

There should be an informed conversation with the public (environmental advocacy groups, elected officials, local environmental groups, and property owners, etc.) about the cost and benefits of major investments in water quality improvements, such as CSO reductions, as well as the cost and rate impacts associated with a range of potential approaches, before DEC and the City finalize CSO cleanup plans.



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