



NEW YORK CITY SOIL AND WATER CONSERVATION DISTRICT

Annual Highlights 2012

The District accomplished a great deal in 2012 even in the face of fiscal austerity. We made great progress particularly in the area of green infrastructure implementation, monitoring and policies. We remained actively engaged in various partnerships, including the SWIM Coalition, Lower Hudson Coalition of Conservation Districts and Lower Hudson Long Island Resource Development and Conservation Council. On the staffing front, Rob Crauderueff has joined our office as the SWIM Coalition Coordinator early in 2012. He was also instrumental in securing a contract with The Nature Conservancy for the vacant land study (more on this project below).

SUSTAINABLE STORMWATER MANAGEMENT

770 Bryant Avenue Green Infrastructure Retrofit

With this year's Conservation Project Financial Assistance funding, the District created a stormwater capture garden in the backyard of the building at 770 Bryant Avenue in the Hunts Point section of the Bronx.



Before (top) and after (bottom) views of the backyard.

We created a series of stormwater capture planters of various sizes, planted with native species. The twenty-planter system collectively has the capacity to detain 800 gallons of rain water and covers approximately 40% of the surface area of the rear half of the yard. The front half needed to be left clear for the removal of refuse from the building.

As in other projects, we consulted with the residents for the design of the space and created a sitting area. We will continue to work with the residents for proper care and maintenance of the planters.

Maintaining Past GI Projects

We continued to weed the rain garden on West 150th Street. While the native plants are thriving, and some weed species, such as mugworts, are disappearing, others are persistent and require regular removal.



Additionally, littering continues to pose a problem.

Blue Flag (*iris versicolor*) blooming in the rain garden on W150th Street.

At the Prospect Avenue project site, with funding from the Banana Kelly Community Improvement Association, the



The wetland plants in the planters filled out both planters.

District created a raised bed vegetable garden. We held a planting event for the



residents in June and planted peppers, cucumbers, okra, eggplants, lettuce and herbs. Two residents volunteered to be the caretakers of the garden and harvested vegetables throughout the summer.

The native plants in the stormwater capture planters are well established and thrived this year. Some of the



grasses reached a height of more than three feet. Very little weeding was necessary because of the dense coverage by the natives.

The Nature Conservancy Vacant Land Study

Responding to a request for a proposal, the District submitted a proposal and was awarded the contract to study the use of vacant land for stormwater capture green spaces. The study was part of a larger study by the NatLab, a collaboration of The Nature Conservancy, Natural Resources Defense Council and the EKO Asset Management Partners and is intended to inform the Philadelphia Water Department, which has committed to incorporating green infrastructure as a way to meet the combined sewer overflow consent order obligations.

Rob was the lead researcher on the study, which included ten case studies from around the nation. The case studies spanned property acquisition and transfer mechanisms, funding and financing, management and operational structures, stormwater planning, maintenance, community involvement, and more. The study will be available online in early 2013.

Greenstreets Monitoring

Greenstreets monitoring program is a partnership among the NYC Parks Department, Drexel University, Brooklyn College and the District and is funded by the National Science Foundation's RAPID grant.

The three Greenstreet monitoring sites, all of which are in Queens, are: 1) 116th Avenue & Nashville Boulevard, 2) Murdock Avenue & Colfax Street, and 3) Alley Pond Park, State Route. Greenstreet monitoring began in the spring in 2012 at these sites

that were equipped with weather stations, weighing lysimeters, rain collectors, soil moisture sensors, pressure transducers and automatic water samplers. The District was responsible for conducting the water and soil sampling that continued into the fall. Tatiana is analyzing the data as part of a large comprehensive monitoring program that is evaluating pollutant partitioning and the water balance (including evapotranspiration) of these stormwater capture systems to better understand and predict how these systems perform in the urban environment. This research also serves as Tatiana's Master's thesis research.

Soil samples and cores were collected five times over the course of a year and analyzed for N, P, K, heavy metals, micronutrients, total organic content, pH, salt, and texture. Water sampling was rain event-dependant. Water samples were analyzed for TKN & TKP, N, P, K, Total P, micronutrients, heavy metals, pH, salt, TOC, and TSS. The data is currently being analyzed and processed. Reports will be generated in 2013.

Green Infrastructure Bus Tours

NYCSWCD organized a tour to Villanova University campus, PA to examine the design and monitoring of several stormwater capture systems.

Villanova University (Department of Civil and Environmental Engineering, The Villanova Center for the Advancement of Sustainability in Engineering, Villanova Urban Stormwater Partnership,) graciously hosted, providing in-depth presentations on the construction, design and monitoring of their projects, followed by a comprehensive tour of 17 of their on-campus systems that included a green roof, rain gardens, pervious pavements, infiltration trench, stormwater wetlands, bioretention, and a treatment train. The District, with the funding from the Conservation Project Financial Assistance program of the New York State Soil & Water Conservation Committee, provided this tour to twenty-eight participants who are landscape architects and designers, practitioners, city agency employees and researchers in the green infrastructure field.

DEC Endorsed 4-Hr Construction Site Inspection Training

The District successfully hosted two NYSDEC endorsed 4-hr Erosion and Sediment Control Trainings on January 26th 2012 with 62 participants and November 15th 2012 with 28 participants. The trainings were held at the DEC Region 2 offices and at the DEP Newtown Creek Visitor Center respectively.

STORMWATER PARTNERSHIPS

Stormwater Infrastructure Matters Coalition

Tatiana and Shino continued to serve on the steering committee and took on a larger leadership role working with Rob, who has volunteered as the SWIM Coordinator.

The District supervised two graduate student interns for SWIM, coordinated Steering Committee and Public meetings, assisted with proposal preparation for grants, and supported Rob by providing him with office space.

SWIM's accomplishments include:

- Conducting a thorough analysis of the green roof tax abatement program,
- Preparing a comprehensive comment letter to the City's Report and Advisory Board Review Commission on the Local Law 5 reporting requirements,
- Informing SWIM constituency on important matters via the web site and the e-blasts,
- Supporting the agreement between the City and the State for the inclusion of green infrastructure in the CSO Long Term Control Plan

NYC Department of Environmental Protection's Green Infrastructure Steering Committee

Shino continued to serve on the GI Steering Committee and was elected to chair the Education and Outreach Subcommittee.

Education and Outreach Committee has undertaken the review of DEP's outreach and education materials as well as the LTCP public participation plan for those watersheds where green infrastructure is a component of the plan.

Lower Hudson Coalition of Conservation Districts

The District continued to serve as the fiscal administrator of the Coalition as well as provide programmatic leadership. Shino served on the Steering Committee and worked closely with the Coordinator. Shino has also met with the Executive Director of the Hudson Valley Regional Council, which the Coalition has a contract for a project funded through the Clean Water Act section 604(b).

The Steering Committee also met with James Tierney, the Assistant Commissioner of the NYS DEC, to share the accomplishments of the Coalition and explore potential funding sources.

The District was an active member of the Stormwater Conference planning committee. The conference was held in partnership with the International Erosion Control Association - Northeast Chapter and focused on green infrastructure.

ENVIRONMENTAL EDUCATION

NYC Outdoors: Environmental Education Expo

Rebecca coordinated the 12th Annual NYC Outdoors! Expo with the River Project and NYU Wallerstein Collaborative. We were able to host the event in the Kimmel Student Center at NYU. 39 exhibitors attended the event with approximately 100 attendees.

Envirothon

The 2012 Envirothon was held in High Rock Park, Staten Island. Con Edison generously provided the funding for the event. A total of 14 teams participated

from 8 different schools across all five NYC Boroughs. One Staten Island Technical High School and the two Stuyvesant High School Teams were the first, second and third place winners respectively.

NY State Envirothon

Rebecca attended the State Envirothon with the winning teams of each borough that included: Staten Island Technical High School, Stuyvesant High and Brooklyn Technical High School.

HUDSON RIVER FOODWAY CORRIDOR

The District took the lead in managing the Foodway Corridor project funded by NYSERDA. Shino oversaw the consultants, convened project team and Technical Advisory Committee meetings via conference calls. She was also responsible for

preparing the progress reports to NYSERDA. The study is expected to be completed in early 2013.

Shino also prepared a proposal for the USDA Rural Business Opportunity Grant for the project.