Smart, Green Solutions to Water Pollution Challenges

Clean Water Policies Make Environmental and Business Sense

Jon Devine, NRDC
Clean Water Solutions
The Clean Water Act

Nation’s fundamental safeguard against water pollution
• No discharge from “point sources” into waters of the U.S. without pollution control permit.
• Industry-specific technology standards to require consistent controls.
• State water quality standards used to make discharge limits tighter and set goals for cleanup.
• Broad requirements in order to control pollution “at the source.”
Current CWA Challenges

- Headwater streams and wetlands left unprotected
- Current Congress has attacked CWA consistently
- Urban and suburban stormwater pollutes and causes sewage overflows
Urbanization Alters the Water Cycle

Natural Conditions

Developed Conditions

Courtesy: May, University of Washington
Urban Stormwater Runoff: Pollutants

- bacteria
- heavy metals
- pesticides
- nutrients
- suspended solids
- trash
Combined Sewer Overflows

Newtown Creek, Brooklyn
Image: Riverkeeper

Image: Seattle Public Utilities
Green Infrastructure as a solution:
What is Green Infrastructure?

Portland streetscape
*Photo courtesy of Martina Keefe*

Navy Yard Bioretention
*Photo courtesy of LID Center*
Portland’s stormwater street planters. Photo courtesy of the Portland Bureau of Environmental Services.

NRDC, Stormwater Strategies

Permeable Pavement, City of Portland, BES

Chicago City Hall Green Roof. Photo courtesy of Roofscapes, Inc.
Green Infrastructure as a solution: Other non-water benefits

- Reduced energy use
- Increased property values
- Improved air quality
- Lower air temperature
- Reduced urban heat island effect
- Conservation of water
Overview: Rooftops to Rivers II

• Demonstrates how cities use green infrastructure to improve stormwater management and achieve multiple benefits.

• The report includes:
  – Economic benefits of green infrastructure
  – Case studies on 14 cities
  – Encouragement for EPA to learn from the work of these cities and advance these solutions nationwide
NRDC’s **Emerald City Metric**

Table ES-1: “Emerald Cities,” listed darkest to lightest by the number of key green infrastructure actions taken

<table>
<thead>
<tr>
<th>City</th>
<th>Long-term green infrastructure (GI) plan</th>
<th>Retention standard</th>
<th>Requirement to use GI to reduce some portion of the existing impervious surfaces</th>
<th>Incentives for private-party actions</th>
<th>Guidance or other affirmative assistance to accomplish GI within city</th>
<th>Dedicated funding source for GI</th>
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<tr>
<td>Philadelphia, PA</td>
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</table>
Philadelphia

- Green City, Clean Waters plan – creating an urban network of GI over the next 25 years
Syracuse

- 1st community in the U.S. to have a legal requirement to reduce sewage overflows with GI
Portland

- Retention standard – January 2011: new development and redevelopment projects must capture and treat 80% of the average annual runoff volume on site.
Economics of Green Infrastructure
Water Infrastructure: A Major Investment Need

“The report documents an estimated national need of $298.1 billion; $187.8 billion is for wastewater treatment and collection systems, $63.6 billion is for combined sewer overflow corrections, and $42.3 billion is for stormwater management.”
Philadelphia’s new stormwater fee structure improves the “financeability” of green infrastructure

• Previous stormwater fee based on water usage (size of water meter)

• New fee based on a parcel’s impervious surface area + gross area
  • Up to 90% discount on fee available for non-residential property owners who demonstrate management of first inch of stormwater across their property
  • Suggests, like energy efficiency retrofit projects, portion of future stormwater fee savings can be utilized for lender or project financier repayment.

• Possible approaches:
  • Third-party off-balance sheet financing
  • On-bill financing
  • Tax lien financing, such as Property Assessed Clean Energy (PACE) programs
  • Credit enhancement
What Needs to Happen?

EPA Regulatory Improvements Critical
Thank You!

www.nrdc.org/stormwater

switchboard.nrdc.org – search: “green infrastructure”

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