



# SWITCHBOARD

Natural Resources Defense Council Staff Blog

Larry Levine's Blog

## Philadelphia Gains Approval of Landmark Green Infrastructure Plan, a Model for Smart Water Practices Nationwide



Posted June 1, 2011 in [Curbing Pollution](#), [Environmental Justice](#), [Health and the Environment](#), [U.S. Law and Policy](#)

Share |

Like 35

Philadelphia is known nationwide for its cheese steaks and the Liberty Bell – but it's now one step closer to adding “[greenest city in America](#)” to that list.

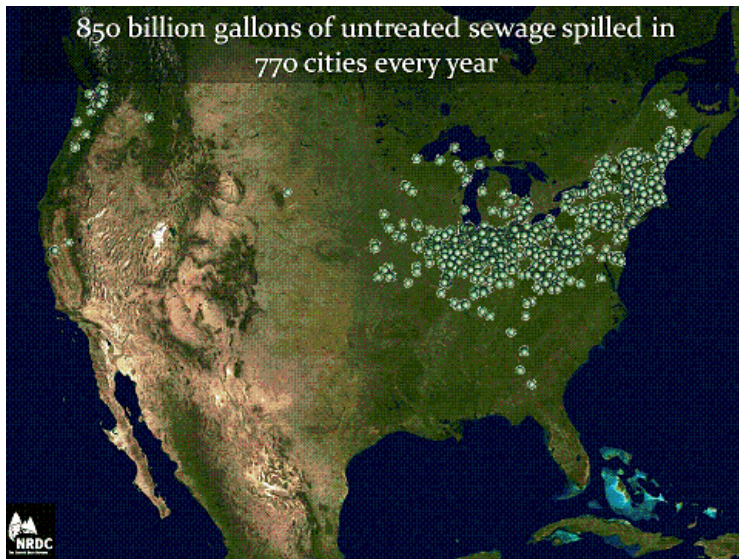
Today, the city will secure its place as a national leader in using cutting-edge techniques to clean up its rivers and other surrounding waterways. The Philadelphia Water Department and state environmental officials [are signing](#) an ambitious agreement, which commits the city to deploy, over the next 25 years, the most comprehensive network of green infrastructure found in any U.S. city. Philadelphia is about to get, quite literally, a lot greener – and, as a result, its water a lot cleaner.

Philadelphia BEFORE Green City, Clean Waters Initiative



*(Images courtesy of Philadelphia Water Department)*

“Green infrastructure” is a collective term for smarter practices on land that stop water pollution, like green roofs, porous pavement, roadside plantings and increased park space. These methods stop rain where it falls, allowing it to filter back into the ground. That keeps it from turning into runoff that [carries pollution](#), like oil and gas products, trash, and pet waste, from paved surfaces into the water. In the hundreds of U.S. cities where storm runoff and sewage flow through the same pipes, it also keeps rain from overloading those outdated “combined sewer systems” and triggering overflows of raw sewage -- a.k.a. [poop](#) -- directly into nearby waters.



This all makes for not only cleaner waterways, but also, as Philadelphia recognizes, all-around [healthier, more pleasant places to live](#). By accounting for a range of social, economic, and environmental benefits that come from adding green spaces to city neighborhoods, Philadelphia has [projected](#) that a green approach to reducing sewer overflows will yield more than two dollars in benefits for every dollar invested!

It's no wonder that other cities around the country – from [New York](#) to [Los Angeles](#), [Kansas City](#) to [Cleveland](#) – have been looking to green infrastructure to help clean up their waters in recent years. Green infrastructure is [widely recognized](#) as often the best and most cost-effective way to do the job. But Philly is the first to embrace these smarter water practices with such enthusiasm, by committing to a comprehensive citywide program that will benefit its neighborhoods and its rivers alike. Cities around the nation should take note.

Under the plan approved today, Philadelphia will transform at least one-third of the impervious areas (think concrete and asphalt) served by its combined sewer system into “greened acres” -- spaces that use green infrastructure like roadside planting strips, rain gardens, trees and tree boxes, porous pavement, cisterns, and other features to infiltrate, or otherwise collect, the first inch of runoff from any storm. That amounts to keeping 80-90% of annual rainfall from these areas out of the city's over-burdened sewer system.

*This video gives you a closer look at what the Philadelphia of tomorrow will look like:*



[Green City, Clean Waters Promo](#) from [GreenTrek's Network](#) on [Vimeo](#).

In combination with targeted investments in sewage treatment plant expansions, these green approaches will reduce Philadelphia's annual sewer overflows by nearly 8 *billion* gallons per year. The majority of this improvement will come from the intensive greening efforts to keep water out of the sewers -- at a cost billions of dollars less than the more “traditional” approach of building underground storage tunnels to deal with runoff after it's already entered the sewer system.

When Philadelphia first [proposed](#) its *Green City, Clean Waters* program in 2009, NRDC commissioned a review by independent experts, which found that the city's plan was based on solid -- even conservative -- projections of how much sewage pollution it could prevent through widespread use of green infrastructure. Working with two local organizations, [Penn Future](#) and [Clean Water Action](#), we [offered](#)

[recommendations](#) to the city and the state and federal environmental agencies that oversee its clean water programs, on how to strengthen the plan even further, to ensure it succeeds over the long term.

So we're pleased to see that, in today's agreement, state environmental regulators took a number of our recommendations to heart, signing-off on a beefed-up version of the original plan that includes stricter limits on both the total volume of sewage overflows and the amount of key pollutants released into city waterways. The agreement includes final limits the city must meet at the end of 25 years, as well as enforceable, interim targets for the 5-, 10-, 15-, and 20-year marks, to ensure the city makes steady progress over time.

(The agreement also leaves some key issues unresolved, at least for now. For example, while the Clean Water Act requires protection of each and every one of the city's rivers and creeks, the agreement only sets pollution limits on a citywide basis, and does not appear to guarantee specific levels of pollution reduction for any individual waterway.)

The approved plan now serves as city's official "Long Term Control Plan." All cities with combined sewer overflows must develop and implement such plans under the federal Clean Water Act. But Philadelphia's is unique in the nation. It is the first to:

- Invest more in green infrastructure than in traditional ("gray") infrastructure, like costly holding tanks and tunnels;
- Rely on green infrastructure for a majority of the required reductions in sewage overflows;
- Include enforceable requirements for thousands of acres to be retrofitted with green infrastructure, *citywide*; and
- Leverage investments from the private sector to help satisfy pollution reduction requirements.

Still, many challenges lie ahead, especially for the city's Water Department, which bears primary responsibility for implementing this visionary program. The plan's long-term success will hinge on active participation by [community organizations](#), [businesses](#), [private property owners](#), and, especially, a wide range of other city agencies. (For example, the city Streets Department just completed its [first porous street](#) last month, in cooperation with the Water Department.)

Of course, if done right, it will all be well worth the effort. Key next steps for the Water Department include developing detailed protocols to design, install, and maintain thousands of new green infrastructure [installations](#) throughout the city, and to monitor their effectiveness at reducing sewer overflows. Within the next six months, the Water Department will also submit plans for "early action areas" within the city to target first, with focused greening efforts. And the city must also get to work on "streamlining" various local codes, ordinances, policies, and inter-agency procedures, identifying and resolving any barriers to smooth implementation of the program.

In the coming months and years, NRDC and our local partners will remain deeply engaged, tracking the city's implementation and contributing our expertise to help make it a success. And even as the Philadelphia story unfolds, we'll continue working to make green infrastructure the centerpiece of smarter water management nationwide.

[Share](#) |  | [Like](#)

## Comments ([Add yours](#))

**matt** — [Jun 2 2011 05:12 PM](#)

are there incentives for homeowners to install green roofs? if so, i'm in!

**andrew** — [Jun 3 2011 10:27 AM](#)

So, is this going to be enough to offset the effects of drilling for shale in the Delaware River? Seems like we're spending a lot of money to fix a problem that we could spend less to prevent.

**Larry Levine** — [Jun 3 2011 12:14 PM](#)

Philadelphia has a green roof tax credit for businesses that pay the city's "business privilege tax." It covers 25% of the total cost of installation, with a maximum credit of \$100,000. (See info here: [http://www.phila.gov/revenue/pdfs/Internet\\_Summary\\_-\\_B.pdf](http://www.phila.gov/revenue/pdfs/Internet_Summary_-_B.pdf)) But I'm not sure they have something comparable for residential rooftops. Call your city councilmember and let him know that's something you'd like to see!

**Larry Levine** — [Jun 3 2011 12:19 PM](#)

And by the way, some other cities have green roof tax credits too. Check out my recent blog on NYC!  
[http://switchboard.nrdc.org/blogs/llevine/new\\_columbia\\_university\\_study.html](http://switchboard.nrdc.org/blogs/llevine/new_columbia_university_study.html)

**Larry Levine** — [Jun 3 2011 12:24 PM](#)

Philly's green infrastructure plan is actually aimed at solving another problem -- sewage overflows that already plague waterways within the city. You're absolutely right that pollution prevention is the way to go -- both for protecting drinking water resources from gas drilling, and for keeping runoff out of the city's sewer system to prevent overflows that foul local waterways.

© Natural Resources Defense Council