

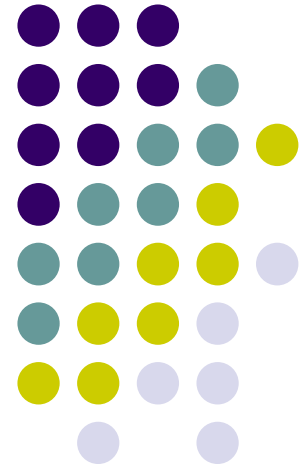
Green Roof Incentives + Partnerships – The 2010 Resource Guide

EPA Webcast: Implementing Green Roofs at the Local Level

June 8, 2010



Sara Loveland

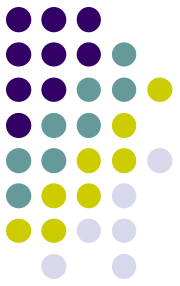


Our Mission

DC Greenworks will work to grow livable communities using living materials.



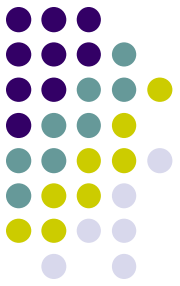
Our Business Model:
The results of a business
with the heart of a
non-profit.



Our Services:

- Consultation - We answer lots of questions. All the time.
- Installation - We are committed to finding ways for all stakeholders to realize positive economic benefits.
- Advocacy - We work with the public, industry professionals, and legislators to help craft effective policy.
- Training - We specialize in informing and growing our competitors
- Research – We provide the data decision makers need to support green infrastructure growth.

DC Greenworks Government Partnerships



- Washington, DC Green Roof Pilot Subsidy Program

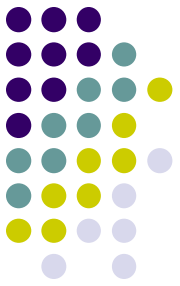
DCG acts as administrator and public educator for DDOE city wide subsidy



Originated in 2007 at \$3 per square foot with an approval committee and rating system

Now provides for \$5 per square foot of green roof installed, up to \$20,000 with criteria of 50% coverage of usable roof space and 3 inches of growing medium depth

DC Greenworks Government Partnerships



- greeNEr – Green Roofs for Environmental and Economic Revitalization

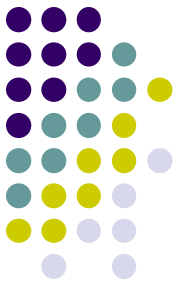
Funded by the Office of the Deputy Mayor
for Planning and Economic Development



Targets businesses in the revitalizing H Street NE corridor, where construction has made growth challenging and many old or historic buildings are being renovated

Provides for \$9 per square foot above citywide subsidy as well as DC Greenworks project management labor and installation performed by volunteers from the community, all at no cost to the building owner

The 2010 Resource Guide



This research was generously funded by a Chesapeake Bay Small Watershed Grant from the National Fish and Wildlife Foundation, a 501(c)(3) non-profit that preserves and restores our nation's native wildlife species and habitats.



The goal: To catalog and assess green roof incentives across the country in order to arrive at recommendations for successful programs

Nora Shepard, GRP performed research, interviewed program managers, and compiled the full white paper with data through September 2009.

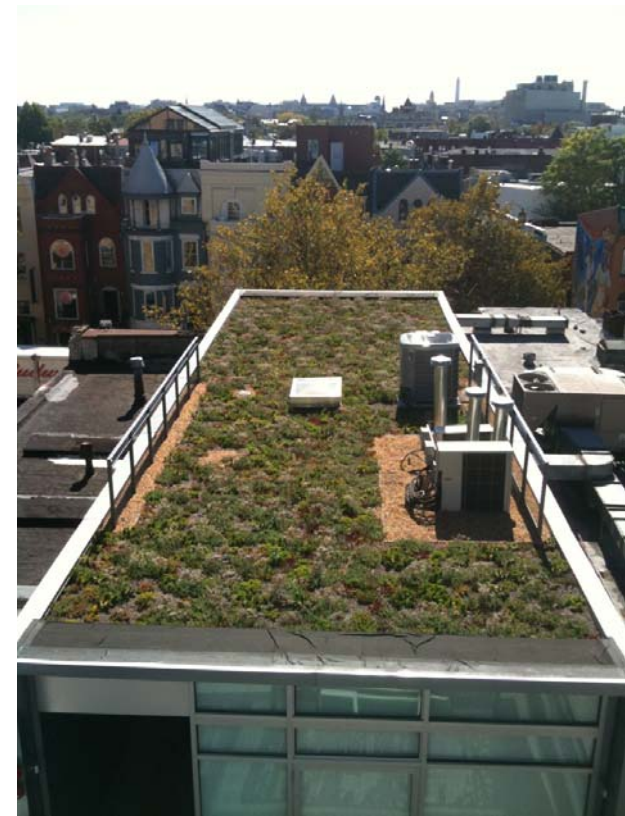
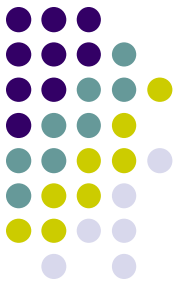
The Need



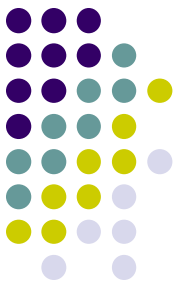
- 40 million people are living in 32 states (including DC) and 746 cities with combined sewer systems
- 9,348 outfalls which dump an estimated 850 billions of gallons of untreated sanitary sewage into our waterways every year.
- According to EPA's Clean Watersheds Needs Survey in 2000, the cost to reduce the nation's CSO volume by 85% to approximately 127.5 billion gallons annually would cost over \$50 billion dollars or approximately \$62.3 billion dollars in 2009.

The Need

- Based on research compiled by the *New York Times*, the Clean Water Act has been violated more than 506,000 times since 2004. These violations were enacted by more than 23,000 companies and other facilities, and the number increased by more than 16% from 2004 to 2007.
- Fewer than 3% of the Clean Water Act violations resulted in penalties imposed by state officials.



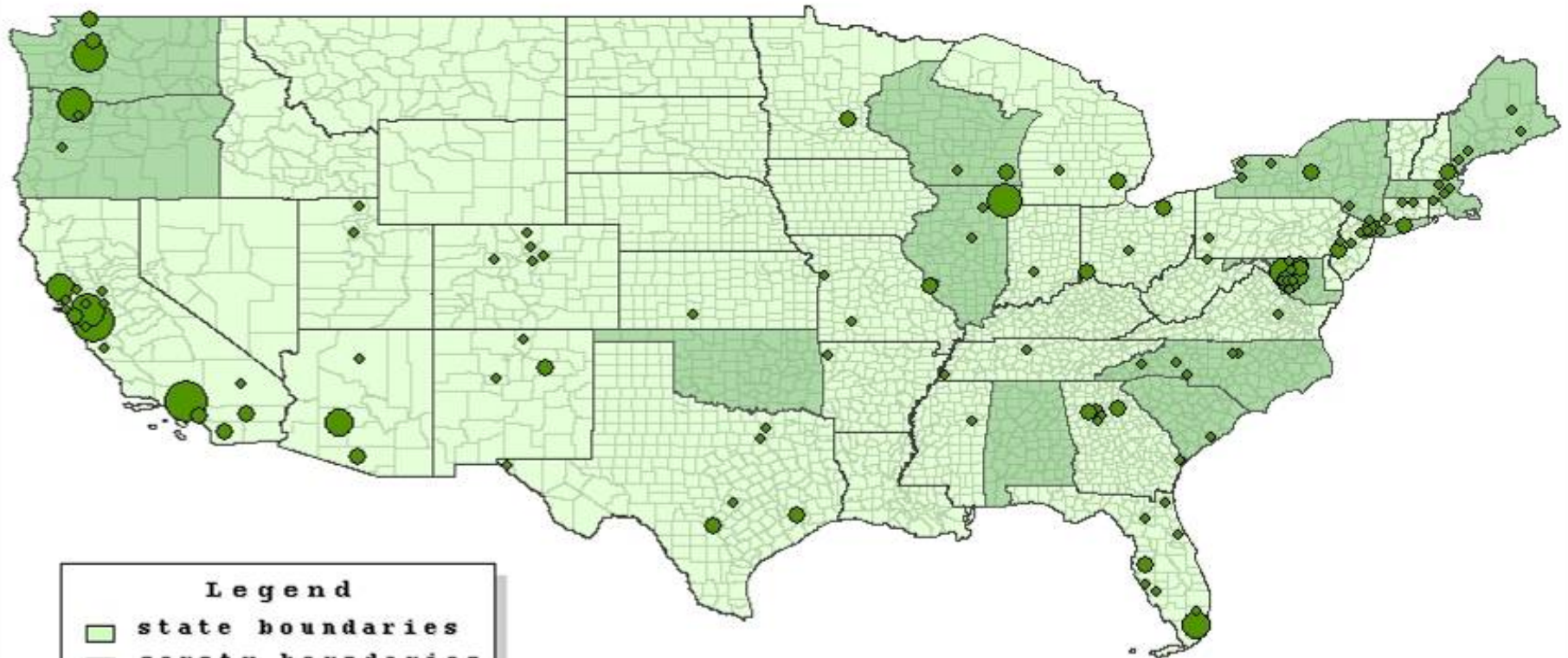
Top Ten Metropolitan Area List by Square Footage of Green Roof Infrastructure Installed, 2008



- Chicago Illinois 534,507
- Washington D.C. 501,042
- New York New York 358,986
- Vancouver British Columbia 320,000
- Philadelphia Pennsylvania 196,820
- Baltimore Maryland 150,032
- Montreal Quebec 75,700
- Grand Rapids Michigan 74,784
- Princeton New Jersey 56,250
- Newtown Square Pennsylvania 48,130

Green Roof Incentives in the United States*

* includes green building incentives



Legend

- state boundaries
- county boundaries
- state incentives

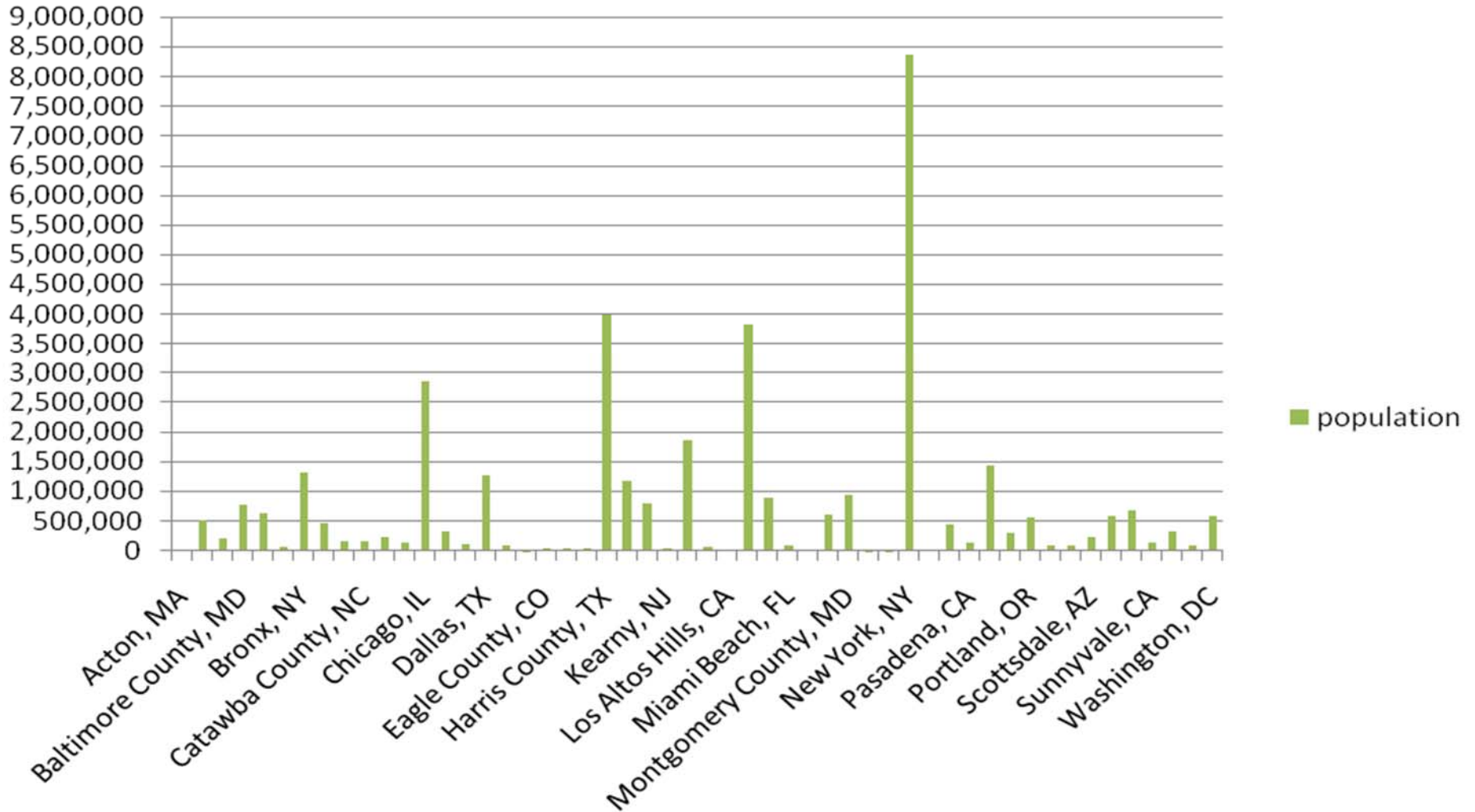
city/ county incentives

- 1
- 2
- 3
- 4
- 5

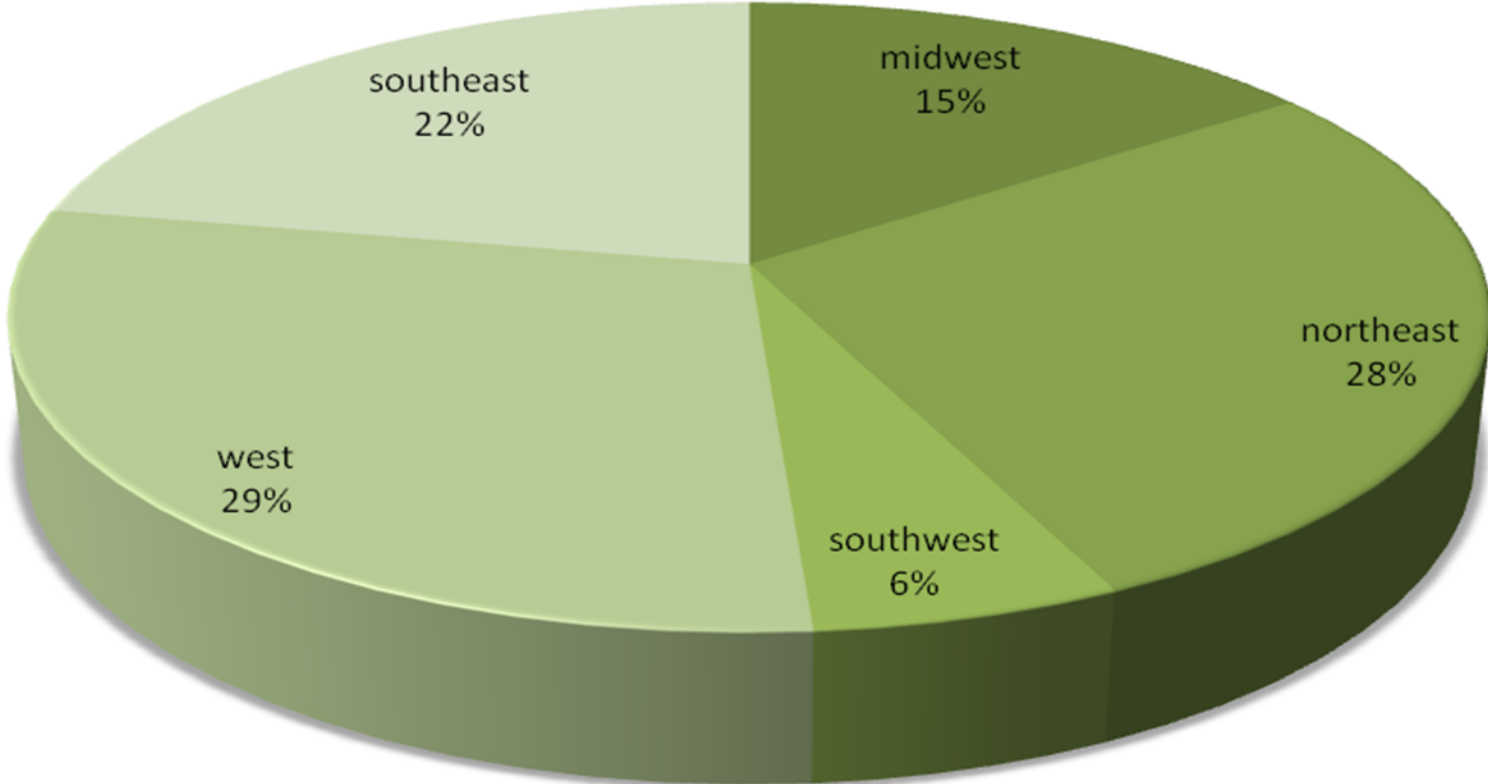




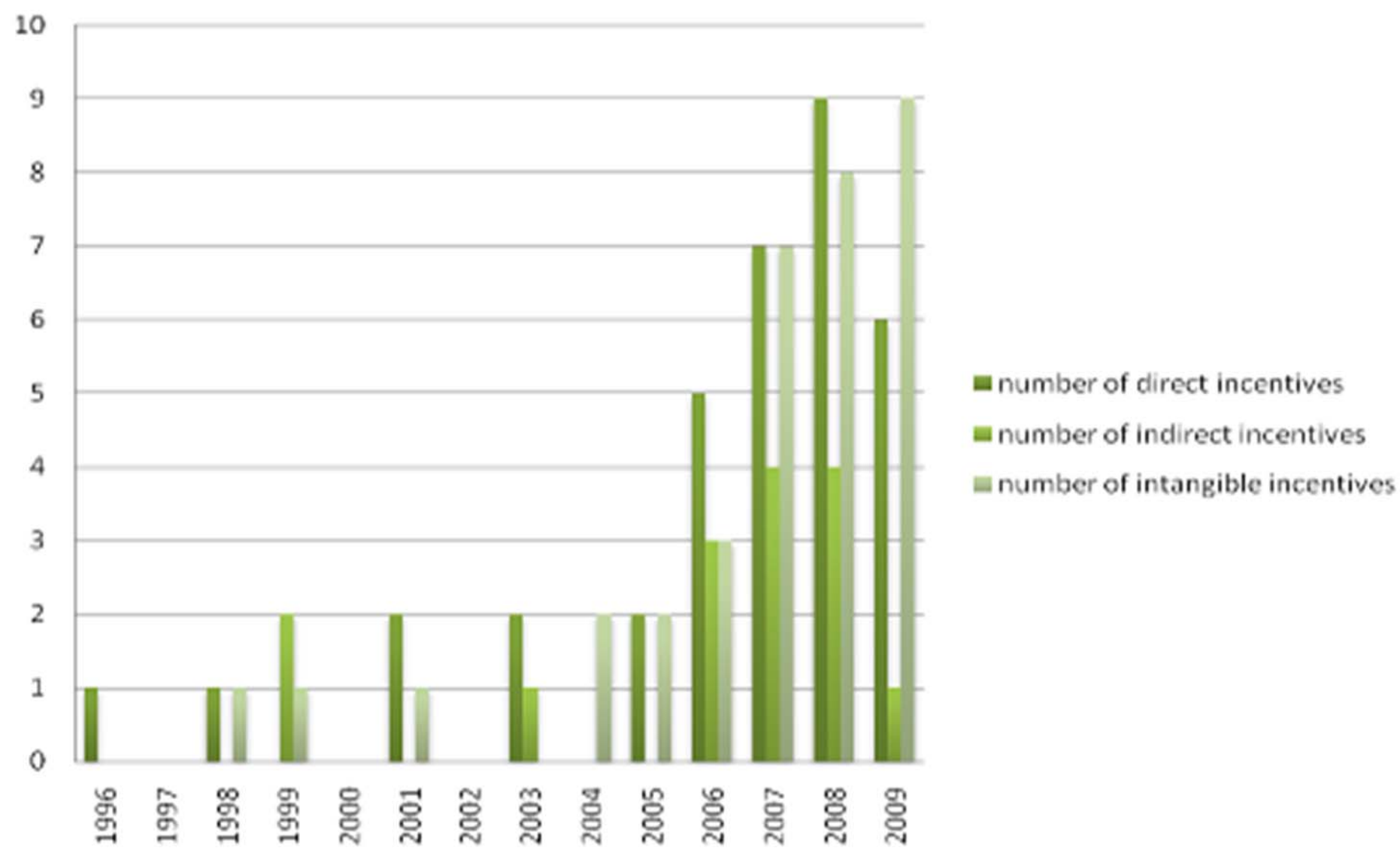
population of United States municipalities with green roof incentives



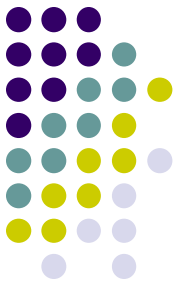
Incentive Implementation by Region



Year of US green roof incentive implementation



Incentive Options



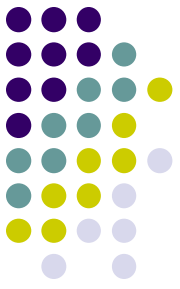
- **Direct financial incentives** | direct monetary inducements to encourage a certain behavior or action such as: **grants, tax credit and abatement and loans**
- **Indirect financial incentives** | indirect monetary inducements to encourage certain behaviors or actions such as: **fee reductions through feebates and fee credits such as stormwater utility fee credits**
- **Intangible incentives** | alternatives to monetary inducements to encourage certain behaviors or action such as: **density bonus, fast-track permitting, awards and expedited utility hook-up**
- **Regulation** | rules and guidelines created to direct certain human behavior and in this context direct building development



Direct financial incentives

Tax Incentives | 15 green building and 2 green roof specific tax credit or abatement incentive programs

- In New York City, bill S7553 provides a one- year tax abatement for green roofs that cover at least 50% of the available roof space and solar panel installation. Only 5 applications as of Fall 2010, none for green roofs
- In Philadelphia, Bill No. 070072 created tax credits for lesser of 25% of project costs or \$100,000 against the Business Privilege Tax. One applicant as of Spring 2009



Direct financial incentives

Grant Programs – 17 programs that fall under one of 4 structures

- **A lump sum per project** | *Chicago's Green Roof Grant Program*
- **An amount per square foot with or without a project limit** | *Washington, DC's Pilot Green Roof Subsidy*
- **A percentage of the green roof costs with or without a project limit** | *Linz, Austria's Green Roof Grant Program*
- **As an element of a larger grant program** | *Portland, Oregon's Community Watershed Stewardship Grants* | *Washington, DC's Green Roofs for Environmental and Economic NE Revitalization (greeNEr)*



Direct financial incentives

Loans – 9 available programs which mostly focus on energy efficiency, 2 of which are green roof specific

The *Bronx Environmental Revolving Loan Fund* - Low interest loans since 2006 funded through the New York Power Authority to implement energy efficient technologies, such as green roofs to improve air and water quality and save energy. Maximum loan amount is \$100,000 with a 10 year term and 1-3% interest rate. Has funded 13 green roofs totaling approximately 40,000 square feet of vegetated roof space in the Bronx

Look out for Property Assessed Clean Energy (PACE) Financing programs gaining popularity across the country!

Indirect financial incentives

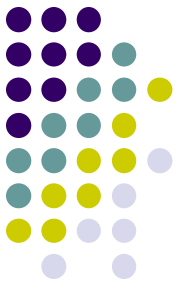


Fee Reduction, Feebates and Fee Credits
12 programs studied

Washington DC = fees for 'green' building permits are $\frac{1}{2}$ to $\frac{1}{3}$ of standard fees

Arlington County = \$.045 psqft to green building fund, refunded if certification is achieved

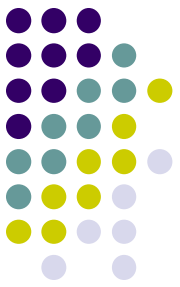
Minneapolis = Property owners can apply for a credit of up to 50% of their stormwater utility fee if they are using stormwater quality management tools/practices (often referred to as "best management practices" or "BMPs") and can apply for a 50-100% credit for BMP quantity measures which include green roofs



Intangible incentives

- **Density/ zoning bonus** | There are currently 13 density bonuses for green building and 2 green roof specific programs in the United States.
- **Fast track or priority permitting** | There are approximately 20 fast track or priority permitting programs implemented across the United States. None of the programs focus specifically on green roofs.

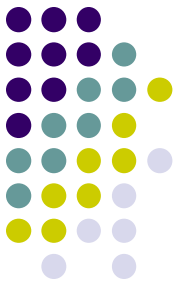
Impervious Surface Fees



examples of impervious surfaces

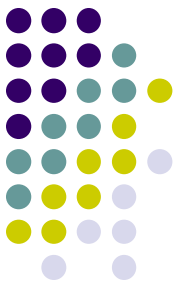


Source: DCWASA



Impervious Surface Fees

- ERU = Equivalent Residential Unit = 1,000 sq ft
- Current charges \$2.20 per ERU, per month, but this will escalate
- Generates \$6.9 million in fees annually
- At current rate, would take 318 years to pay for tunnels with just building fees



Recommendations

- Remove barriers to green roof incentives
- Create a variety of incentive packages in conjunction with regulation
- Increase education and outreach of the green roof technology and sustainable green building
- Create a baseline of green roof interest and understanding
- Conduct research and compile performance data
- Implement demonstration projects to form case studies and increase awareness
- Formalize green roof incentive administration
- Provide technical assistance and create a green roof specialist position
- Cultivate a culture of urban environmental awareness around green roofs

Increase education and outreach of the green roof technology and sustainable green building



- Toolkits
- Websites
- Conferences
- Green Roof Professional Accreditation + continuing education
- Green technology centers
- Green roof research centers

Recommendations – The big three



- Energy Star rating for green roofs
- Eco-districts
- Green roof ready construction

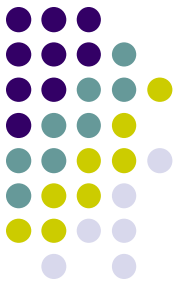


What you can do now:



- Install a green roof
- Support green infrastructure research in your community
- Urge your legislators to pass supporting policy
- Volunteer with a stormwater group
- Support businesses that are 'water conscious'

Where you
can find us:



Download the 2010 Resource
Guide for free!

www.dcgreenworks.org

1341 H Street NE Suite 203
Washington, DC 20002
202.518.6195

Sara Loveland
Sara@dcgreenworks.org